

**GOVERNORS'
CLIMATE & FORESTS
TASK FORCE**

Joint Action Plan (2009-2010)
August 2009

APPENDICES



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This report is also available online at www.climatechange.ca.gov/forestry_task_force/

APPENDIX 1: Memoranda of Understanding

ACKNOWLEDGING the friendship and excellent cooperation among the governments of the Federative Republic of Brazil/Republic of Indonesia and the United States of America;

TAKING INTO ACCOUNT the global nature of environmental problems and the ability of joint efforts to enhance joint policies for environmental protection and sustainable natural resources;

RATIFYING the willingness to promote new mechanisms of dialogue and agreement that lead to the strengthening of relationships and productive mutual action;

CONSIDERING the opportunities for collaboration between the State of Amazonas/State of Amapa/State of Mato Grosso/State of Para/Province of Aceh/Province of Papua, and the States of California, Illinois, and Wisconsin in combating climate change;

Recognizing the importance and value of implementing climate mitigation and adaptation actions at sub-national levels, both in their own right and as a means to furthering national and international efforts;

recognizing further the importance of focusing on issues of common interest between the Parties, such as reducing greenhouse gas emissions in the forest sector by preserving standing forests and sequestering additional carbon through the restoration and reforestation of degraded lands and forest and improved forest management practices;

EXPRESS their willingness to cooperate, in the search of joint actions that improve environmental quality and optimize the quality of life in the State of Amazonas State of Amapa/State of Mato Grosso/State of Para in the Federative Republic of Brazil/Province of Aceh/Province of Papua in the Republic of Indonesia, and the States of California, Illinois, and Wisconsin in the United States of America.

ARTICLE 1

This Memorandum of Understanding is intended to promote broader cooperation regarding environmental issues among the Parties within their respective purview and based on principles of reciprocity, information exchange and mutual benefit.

ARTICLE 2

The Parties will coordinate efforts and promote collaboration for environmental management, scientific and technical investigation, and capacity building, through cooperative efforts focused particularly, but not exclusively, on the following priorities:

- a. Reducing greenhouse gas emissions from deforestation and land degradation - otherwise known as “REDD” - and sequestration of additional carbon through the restoration and reforestation of degraded lands and forests, and through improved forest management practices;
- b. Developing rules to ensure that forest-sector emissions reductions and sequestrations, from activities undertaken at the sub-national level, will be real, measurable, verifiable and permanent, and capable of being recognized in compliance mechanisms of each party’s state, provincial, regional, national or international programs such as the State of California’s Global Warming Solutions Act (Assembly Bill 32), Midwestern Greenhouse Gas Accord, Western Climate Initiative, Regional Greenhouse Gas Initiative, or other initiatives;
- c. Initiating innovative financing between the Parties for the sustainable use of forest resources and biodiversity conservation;

- d. Adapting to future climate change impacts and the mitigation of greenhouse gas emissions; and
- e. Stimulating investment between the Parties to promote sustainable development.

ARTICLE 3

In furtherance of the priorities referenced in Article 2, the Parties may develop the following methods of cooperation, among others:

- a. Exchange of information;
- b. Design, implementation and joint financing of studies and projects;
- c. Development and dissemination of publications;
- d. Technology transfer;
- e. Exchange of scholars and experts;
- f. Development of capacity building programs;
- g. Joint development of seminars, meetings, conferences, courses, technical visits and certificate courses; or
- h. Other methods developed between the Parties.

ARTICLE 4

The Parties will cooperate in the development of a Joint Action Plan containing cooperative actions or projects and/or specific studies to be developed.

Each work plan will include all necessary provisions for implementing the cooperation activity agreed upon, including its scope, coordination and administration, resource allocation, expert and professional exchanges, administrative issues, and any other information deemed necessary for achieving the objective of this Memorandum of Understanding.

Independent of the formalization of work plans the Parties agree that collaboration proposals can be presented that allow the parties to optimize outcomes for achieving the objective of this Memorandum of Understanding.

For the follow up and implementation of work plans, theme-specific groups will be established. These groups will be led by officials of the Parties and will meet at a minimum of once a year.

ARTICLE 5

In activities of cooperation and information exchanges, if Parties deem it convenient, private and public sectors may be invited to participate, as well as public, academic and research institutions, or any other organization, as long as they can directly contribute to the achievement of the objective of this Memorandum of Understanding.

ARTICLE 6

The Parties will finance activities referred to in this Memorandum of Understanding with resources allocated in their respective budgets, as these resources become available and as stipulated by their own legislation processes. Each Party will pay for expenses related to its own participation, unless alternative financial mechanisms can be used for specific activities, as appropriate and as approved by their respective appointing authority

ARTICLE 7

Confidential or protected information, material or equipment will not be subject to transfer pursuant to this Memorandum of Understanding.

If information, material and equipment is identified to require or to potentially require protection and classification, during the development of cooperation activities as stated in this Memorandum of Understanding, the Parties will inform corresponding authorities and will establish the appropriate protections in writing. Transfer or use of information, material and equipment not protected or classified which is controlled by any of the Parties, shall be done in accordance with applicable laws of each state, province, nation, or institution and must be properly identified.

ARTICLE 8

Officials designated by each Party to implement cooperation activities under this Memorandum of Understanding will continue working for the party to whom they belong, and no labor relations will be created with any other Party to this Memorandum of Understanding.

Cooperative activities under this Memorandum of Understanding will in no way change the original employer/employee relationship of the officials working together under this Memorandum of Understanding.

The Parties will make all necessary arrangements with corresponding authorities to facilitate customs entrance and exit of participants officially taking part in cooperation projects under this Memorandum of Understanding. These participants will be bound by migration, fiscal, customs, sanitary and national security provisions existing in each respective country and are not authorized to do any other activity without previous permission from the appropriate authorities.

The Parties will ensure that their official representatives participating in cooperation actions have medical, liability and life insurance, to pay costs related to damage repair or indemnification, in case that an accident may occur as a result of cooperation activities related to the execution of this Memorandum of Understanding.

ARTICLE 9

Any differences of interpretation, management or execution of this Memorandum of Understanding will be resolved by mutual understanding of the Parties.

ARTICLE 10

This Memorandum of Understanding can be modified by mutual consent of the Parties in writing, specifying the date of the entry into force of any such modifications.

ARTICLE 11

Termination of this Memorandum of Understanding can be made by any of the Parties, through written communication directed to the other Parties thirty (30) days in advance.

ARTICLE 12

The Parties acknowledge that this Memorandum of Understanding is only intended to provide for cooperation between the Parties, and does not create any legally binding rights or obligations. To the extent any other provision of this Memorandum of Understanding is inconsistent with this paragraph, this paragraph shall control.

Executed in California, United States of America, on November eighteen of two thousand and eight, in one original in the English language.

APPENDIX 2: Key Activities and Needs of MOU States and Provinces

BRAZIL

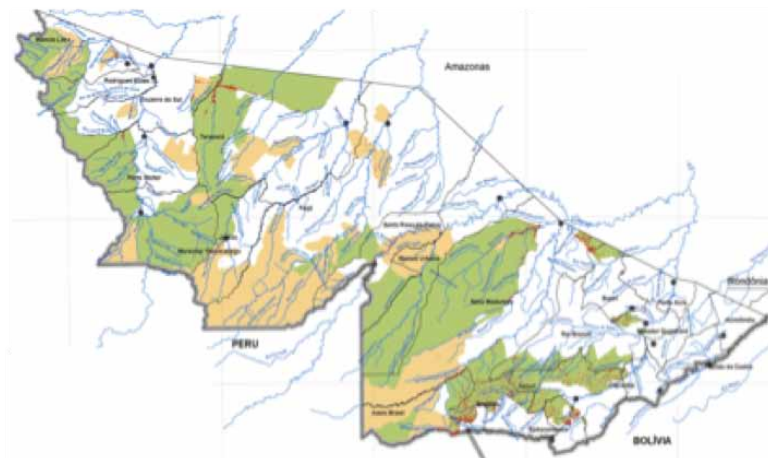
I. ACRE¹

A. Summary

Acre covers 164,221 km², the area of the U.S. state of Wisconsin. It encompasses 4.2 percent of the Brazilian Amazon and 655,000 inhabitants, almost 200,000 living in the forest and rural areas. Acre GNP is US\$ 2.1 billion (2006), with a per capita income of US\$ 3,061 (2006), as compared to Brazil's average of US\$ 4,730. The major economic sectors of Acre are: (1) forestry (16.8% of GNP); (2) agriculture (4.8% of GNP); (3) industry (6.6% of GNP); and (4) services (71.8% of GNP). The primary land forest types in Acre are dense tropical forests and bamboo forests with a high degree of endemism and biological relevance. 48 percent of Acre's land area is legally protected (*figure 1*) as either Indigenous Territories (covering 2,390,112 ha or 16% of protected territory and housing 11,442 people from 14 nations) or Protected Areas (covering 5,255,072 ha or 32% of the protected territory).

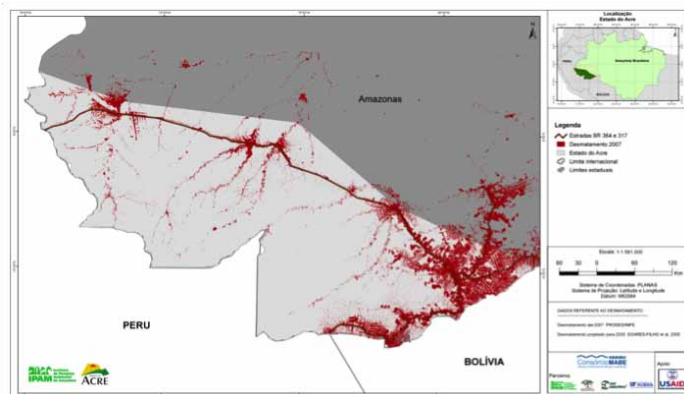
Deforestation in the State of Acre affects 11.7 percent of its land area (1.9 million ha in 2007) as it can be seen in figure 2. The main drivers of deforestation are infrastructure, mainly roads such as BR 317 and BR 364, currently in the final process of paving, as well as commodity markets for beef representing 80 percent of deforested area. One important characteristic of Acre State deforestation is the fragmentation as areas of deforestation smaller than 5 ha make up 80 percent of total deforestation sites (data from 2007). Settlement projects and private properties > 100 hectares count for more than 70% of deforested area each year.

Figure 1. Protected Areas in Acre State
(Indigenous Territories in yellow and Protected Areas in green)



1 This information is taken from the April 29, 2009 submission of Acre: *Fact Sheet on Acre REDD Plan*.

Figure 2. Deforestation areas in 2007 (data from PRODES)



B. Overview of State Policies and Laws

The Government of Acre State has a strong political commitment to conservation and sustainable development. Over the past decade, the Acre state government has designed and implemented a range of progressive policies promoting the value of standing forests and social inclusion.

Acre State already is implementing several policies that are crucial instruments to effectively reduce deforestation and conservation of natural resources while offering social services with quality to its people and jobs in a prosper forest-based economy.

Existing supportive policy instruments relevant to deforestation reduction are:

- A state-wide Ecological Economic Zoning (ZEE) that is tool for Government's Strategic Plan and incorporates the aspirations of local stakeholders, values, livelihoods, and social perspectives.
- Creation of protected areas and land use and territory ordainment along roads.
- Policy for valuing Forest Assets addressing important issues such as private property legal forest reserves (passivo florestal), productivity increase in deforested areas and environmental services payment.
- Acre State Protected Areas System covering 8 mi ha of forests and dwelling for more than 60.000 people.
- Sustainable Property Certification Program to identify landholders that are complying with environmental legislation with annual environmental bonus payments.
- Program for compensation of illegal deforestation on private properties.
- Accurate deforestation monitoring system, implementing property level monitoring.

Acre has a highly qualified, critical mass of technical and scientific assets at the federal university (UFAC), the national agricultural research center (EMBRAPA), the state technology center (FUNTAC) and within a dynamic NGO community.

C. Overview of Current and Planned REDD Projects

The state of Acre is currently developing a plan for reducing greenhouse gas emissions from deforestation and forest degradation (REDD). Through the provision of positive incentives and improved enforcement, the Acre REDD Plan aims to reduce historical annual emissions averaging 29.5 million tons of CO₂ (1999-2008) by 90 percent over a 10-year period, resulting in an overall reduction of 200 million tons of CO₂ emissions. This goal is dependent on the revenues generated from sale of reduced CO₂ emissions in international carbon markets and from other market-linked and

national and international public financing sources are targeted to be directed to: (1) compensate 8,000 forest-based families (indigenous peoples, rubber tappers, and Brazil nut collectors) who currently protect Acre's forests based on the principle of equitable sharing of benefits; and (2) provide incentives for 21,000 small households (≤ 100 hectares) and 2,000 mid- to large-scale properties to transition from unsustainable forms of logging, slash-and-burn agriculture, and extensive cattle ranching toward more sustainable forms of resource use, such as forest management and agroforestry.

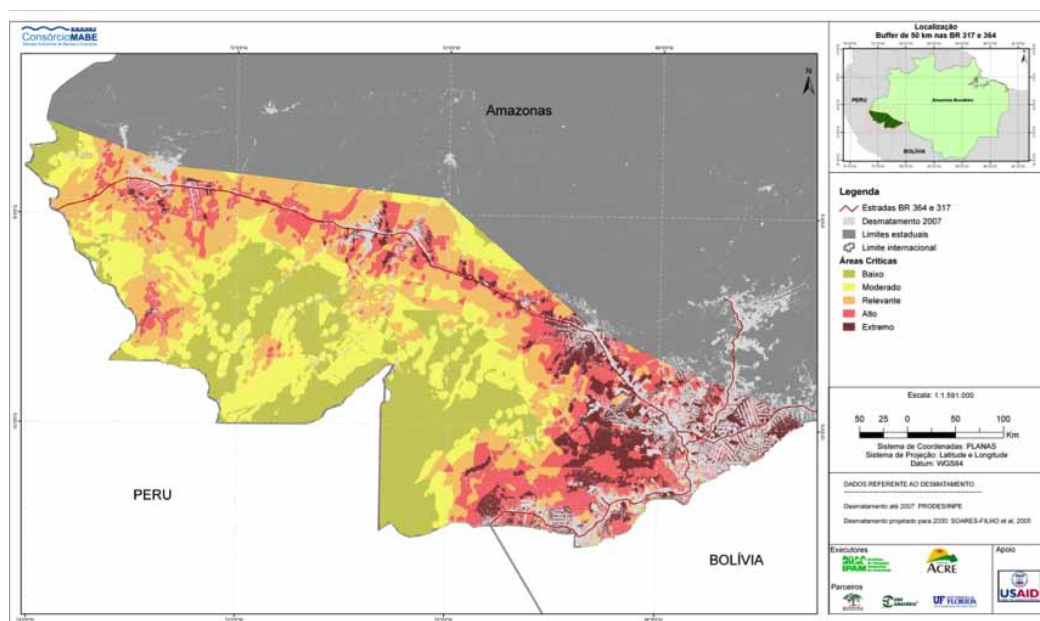
The Acre REDD Plan elaboration is organized in three theme approaches. First, the Environmental Service component of the Plan will identify and quantify the variables associated with the environmental service (including deforestation, forest degradation and associated carbon emissions, and carbon stocks), as well as to improve the monitoring methodology. Second, the Implementation Mechanisms component of the Plan requires the design of environmental services payment mechanisms for each type of participant, the development of the institutional framework and governance structures needed to implement the REDD Plan, the development of the legal framework necessary for the REDD Plan, and securing validation and certification of the REDD Plan by accredited certifiers. Third, the Financing component of the Plan consists of the development of a strategy for identifying and accessing financing mechanisms, carbon markets and other public and private funding sources, attracting investors, and guaranteeing adequate and steady financial flows to implement the REDD Plan.

A first version of the Acre REDD Plan is expected to be completed by July 2009 and begin implementation during the second half of 2009 and 2010.

Priority Areas for Valuing Forest Assets and Deforestation Reduction

Based on the analysis of 12 variables that influence the deforestation dynamics, Acre government has identified critical areas for deforestation in the state (*figure 3*) and defined high priority areas which will be implemented according to the availability of funds for each area. Areas with high critical deforestation levels (relevant to extreme) sum up to 7,6 million ha (46% of the territory).

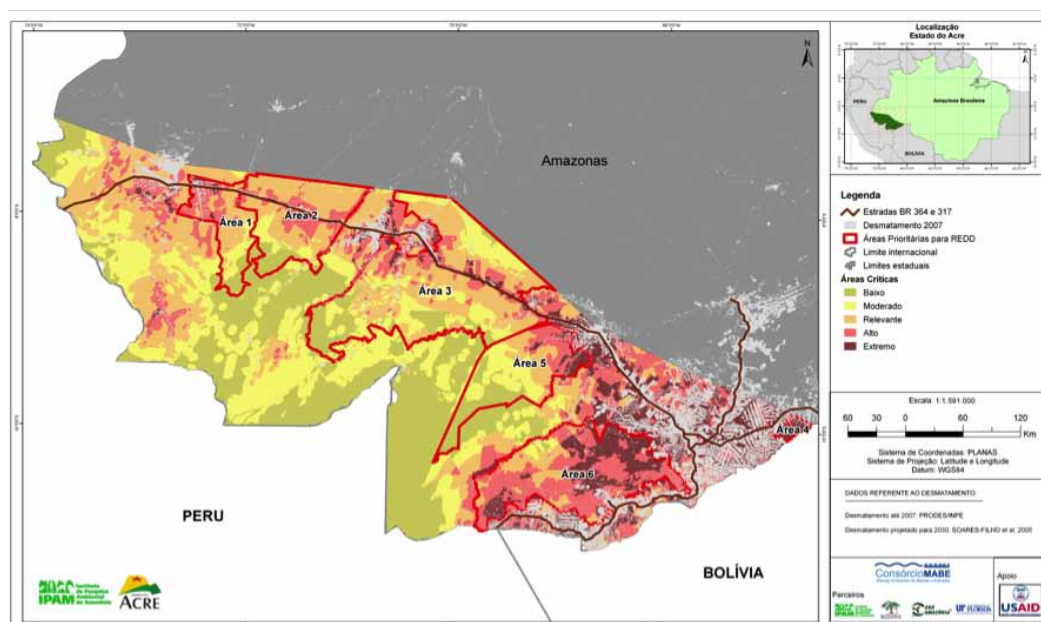
Figure 3. Critical Deforestation Areas in the State of Acre and deforested area in 2007
(source: Acre Government and MABE Consortium)



Six priority areas were identified (*figure 4*) totaling an area of more than 5.8 million ha. Deforestation within these areas represent 13% of total deforestation in year 2007 and current deforestation accounts only for 4% of these priority areas.

The *business-as-usual scenario* in SIM Amazonia models (Soares et al, 2006) projects 2.3 million ha of deforestation by year 2030 within these areas (40% of the total area within the 6 priority areas). The priority areas are considered high risk level for deforestation while maintaining large forest cover.

Figure 4. Priority Areas for implementation of deforestation reduction strategies.

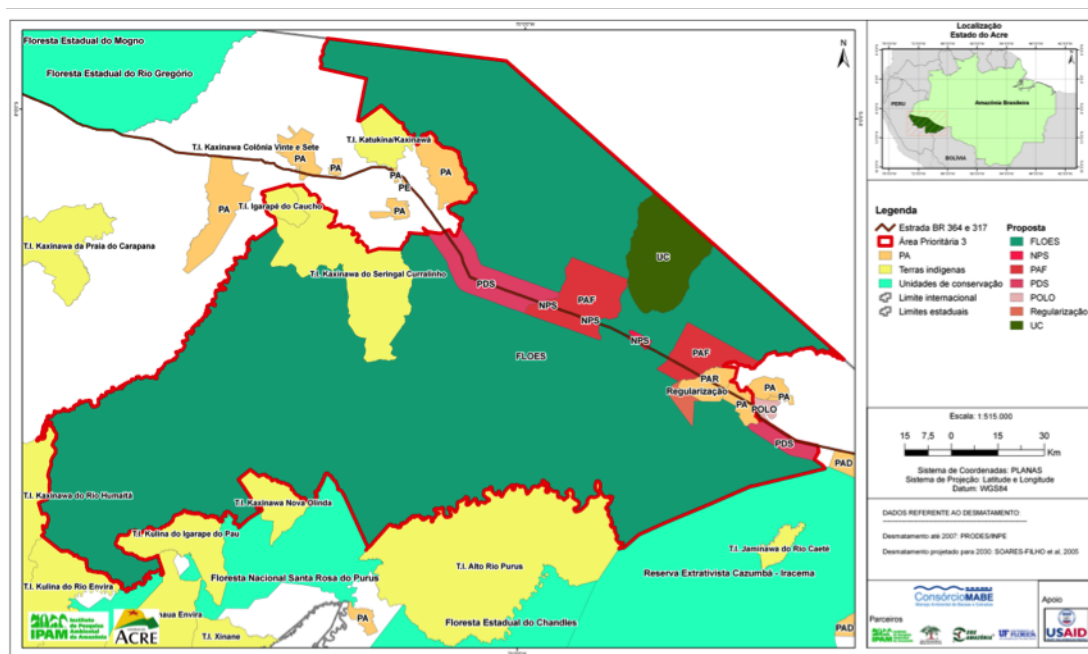


Although Acre Government intends to focus the whole territory to reduce deforestation, the coordinated strategies to reduce deforestation will be implemented in the identified priority areas as long as funds are available to cover costs defined for each area.

The Government has decided to select one of the six priority areas to start the implementation of integrated strategies to reduce deforestation. The area number 3 – Feijo Manuel Urbano, currently in paving process, will work as a learning site in order to improve the several mechanisms related to the REDD implementation and the other priority areas will be implemented as funds are available.

The priority area 3 – Feijo Manuel Urbano – covers an area of 2,219,228 ha (figure 5) along the area of influence of BR 364 currently being paved with 1,410 families from different social groups living within. There are 2 indigenous territories (648 people), 2 settlement projects (398 families) and the Government is currently implementing the territorial ordainment in this area creating one State Forest (1.8 million ha), one Strict Use Protected Area (68,456 ha), and 8 different settlement projects (151,678 ha and 871 families).

Figure 5. Priority Area 3 (Feijo Manuel Urbano) limits and protected areas.



Strategies to implement priority areas

Integrated strategies to reduce deforestation within the priority area will address actions to promote the value of standing forests while enhancing the productivity of deforested areas:

- *Elaboration and implementation of small households certification plan at property level:* a multi-year plan for improving productivity of deforested areas and intensification of sustainable forestry.
- *Elaboration and Implementation of Indigenous Territory Management Plan* addressing social, cultural and economical development issues for each territory elaborated in a participatory process focused on the empowerment of the indigenous groups.
- *Elaboration and implementation of Community Development Plan for rubber tapper communities* addressing social, cultural and economical development issues elaborated in a participatory process focused on the empowerment of this social group.
- *Improvement of Technical Assistance services for the different social groups.*
- *Mobilization and strengthening of community organization.*
- *Strengthening of forest products production chains (timber, rubber and other non timber forest products)* generating a strong forest-based economy.
- *Environmental services payments for forest protection and certified households* benefiting the social groups responsible for providing environmental services.

Overarching strategies to implement REDD Plan

Acre Government is carrying out several actions to set up the framework for a REDD Plan such as:

- Legal framework for Environmental Services Payments.
- Strengthening and modernizing the monitoring and control system of forest assets and deforestation at property level with capacity building for government staff.

- Methodology development for forest degradation monitoring.
- Forest carbon stocks research at state level.
- Establishment of the Acre Forest Asset Fund to receive funding from private and public sources and to distribute to service providers from different social groups

Emissions reductions goal

Considering the projected deforestation for year 2030 in each priority area totaling 2.3 million hectares and adopting a 80% deforestation reduction goal, the six priority areas would generate an avoided deforestation of 1.6 million hectares.

Acre Forests vary from 50 to 200 ton of carbon per hectare. An average of 100 ton of carbon is considered as a good reference for Acre forests. Therefore, the avoided deforestation goal described above will generate an emissions reduction of 164 million tons of carbon.

Within the priority area 3, it is expected to avoid the deforestation of 638,849 ha representing an emissions reduction of 63 million tons of carbon.

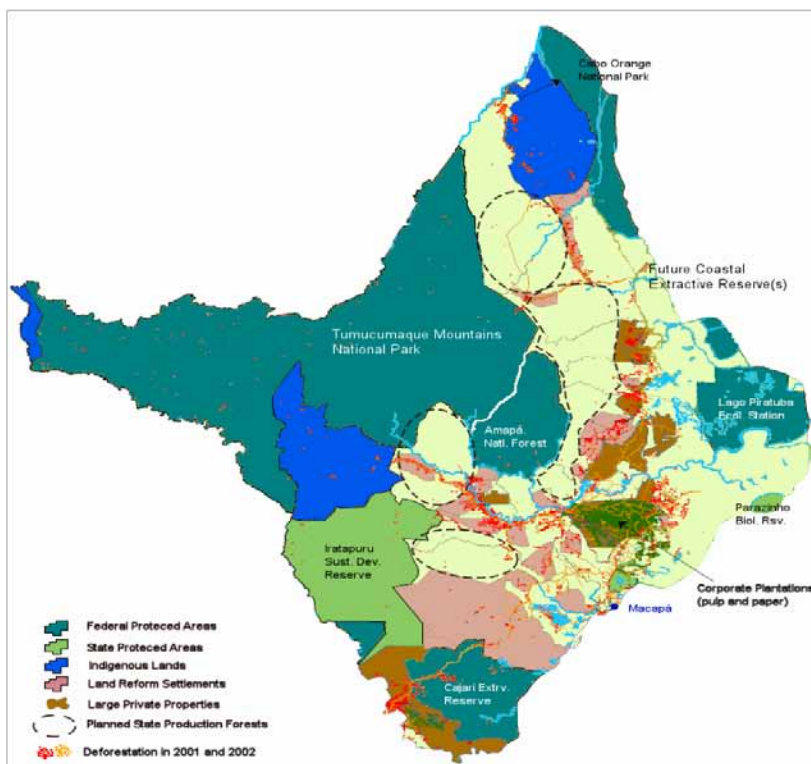
II. AMAPÁ²

A. Summary

Amapá is located in the north of Brazil and has an area of 143,453.7 km². It contains 16 municipalities and important rivers such as the Amazon, Jari and Oiapoque. The Oiapoque River forms Amapá's boundary with French Guiana, and the Jari River its border with the State of Pará. The Amapá population is 613,164. (IBGE, 2008). The cities of Macapá (359,020 hab.) and Santana (95,733 hab.) together represent 74.2% of the total State population. The population growth rate was 4.08% in 2008, the population density 4.29%, and 91% of the population is urban. The indigenous population is 9,365 people represented by the Wajãpi (867 índios), Palikur (1,368 índios), Karipuna e Galibi Kalina (3,065 índios), Galibi Marowono (1,870 índios), Apalai e Waiana (819 índios) e Tiriyo, Kaxuyana, and Txikuyana (1,376 índios).

The State's vegetation cover is largely made up of fields (savannas and cultivated plain) and forests that cover 91.2% of the state surface. The Amapá Forest is characterized by an elevated potential of timber products such as maçaranduba (*Manilkara huberi*), Angelim (*Hymenolobium spp*), Ipê (*Tabebuia spp*), Cedro (*Cedrela spp*) and non timber products such as castanha-do-Brasil (*Bertholletia excelsa*), andiroba (*Carapa guianensis*), copaíba (*Copaifera dukei*), pracaxi (*Pentachleta spp*), breu (*Protium spp*), látex (*Hevea brasiliensis*), cipós (*Heteropsis spp*), açaí (*Euterpes oleracea*).

72% of Amapá's forest cover is composed of Federal, State, Municipal and private conservation units. From all its conservation units the primary ones are the National Park of Tumucumaque Hills and the State Forest (see map below). The National Park was created by a Presidential Decree on August, 22th, 2002, with the objective of assuring natural resource and biodiversity preservation, as well to promote scientific research and the development of educational activities, recreation, and ecological tourism. This Park is located in the western region of Amapá and northern region of Pará, and borders French Guiana. It has an area of 38,773.93 km², which represents 27.03% of the Amapá State surface. The following municipalities are within the park: Calçoene; Laranjal do Jari; Oiapoque; Pedra Branca do Amapari; and Serra do Navio.



The State Forest has a contiguous area of 2,369,400.00 hectares, and encompasses ten municipalities. It is bounded on the north with the Indigenous Reserve of Uaçá, on the south by the Development Sustainable Reserve of Iratapuru River and the Agroextrativista Settling of Maracá, on the east by highway BR 156, and on the west by the National Park of Tumucumaque Hills and National Forest of Amapá. The deforested area of Amapá is less than 2%, and because of this it is considered the most preserved State of Brazil.

2 This information is taken from the May 15, 2009 submission of Amapá: *Summary of REDD Projects and Activities*.

B. Overview of State Policies and Laws

1. Legislation & Regulations

Amapá has taken several actions that promote the protection of the environment and forests, including enacting the 2009 State Government Policy for the Environment and establishing the Production Forest of Amapá State, which is implemented by the Environment Secretary (SEMA) and Forest State Institute (IEF).

The state is also developing the following: (1) Biodiversity Law; (2) Forest Law; (3) Hydrologic Resources Law; (4) Environment Code; (5) Procedures Manual for Environment License; (6) Institutionalization of the State Program for Environmental Education and for the Information State System of the Environmental Education (in discussion, prevision of approval in October 2009)

Amapá is also in the process of reviewing the implementation documents for the Sustainable Development Reserve of Iratapuru River, the Environmental Protection Area of Curiaú River, and the Environmental Area of Fazendinha. Finally, it is revising its laws relating to the “Creation of Land Use and Territorial Order.”

2. Programs

Amapá has several state programs relating to the environment. For example, it has developed and is now implementing the “Environment Municipal Administration for the Amapá State.” In addition, it has developed a State Program for the Prevention and Control of Forest Fires, for which it is seeking funding and partners. Amapá is also in the process of developing a State Program for Addressing Environmental Emergencies and an Integrated Program for the Management of Municipal Solid Waste. It is also developing a Program for Ecological and Economic Zoning, a Program for the Rural Farm “Cadastre,” and a Program for Coast Management.

3. Plans

Amapá is in the process of developing a Plan for the Prevention and Control of Deforestation in Amapá (PPCDAP), which it hopes to complete in August/September 2009. It has also developed a Management Plan for the Environmental Protection Area of the Curiaú River. It is also in the final phase of establishing a Management Plan for the Sustainable Development Reserve of the Iratapuru River (expected in June/July 2009) and is revising the State Plan for Hydrologic Resources.

4. Existing Institutions/Mechanisms

There are several entities in Amapá focused on environmental protection efforts in the state. They include the State Environmental Council (COEMA), the Deliberative Council of the Sustainable Development Reserve of the Iratapuru River, the Deliberative Council of the Environmental Protection Area of the Curiaú River, the Deliberative Council of the Environmental Protection Area of Fazendinha, the Inter-institutional Commission on Environmental Education (CIEIA), the State Fund for the Environment (FERMA), and the State Council of Sustainable Rural Development (CEDRS).

5. Environmental Projects

Amapá has several projects in different stages of development, including the (1) Project of Q. Ama (Amazon Chelonian) (implemented by SEMA since 2001); (2) Projects of Communitarian Environmental Agents (ongoing); (3) Projects of Multiplier in Communitarian Environmental Education (ongoing); (4) Projects of Multiplier in Environmental Education for Sustainable Consumption (developed); (5) Project of the Committee for Hangover Areas (ongoing); (6) Project for the “Implantation of Hydrographics Basin Committee” (being planned); (7) Project for Implementing the Integrated Administration of Groundwater and Surface Water (ongoing); (8) Project for the Establishment of Environmental

Libraries in Amapá Municipalities (ongoing since 2005); (9) Project for Pró-Water “Establishing of Drainage Plan for Macapá City” (under analysis); and (10) Project for the Environmental Portal (being developed).

C. Overview of Current and Planned REDD Projects

1. Inventories of the State Production Forest

Amapá has conducted inventories of the State Production Forest in order to determine the carbon stocks for use in determining forest concessions and implementing REDD projects. For both types of inventories, the field research phase is completed and the results are being analyzed.

2. Total Biomass Evaluation

Total Biomass Evaluation (above soil and roots – international methodology) at State Production Forest of Amapá (FLOTA): Alometria e stocks estimative. The field samples have been collected and the organic carbon determinations completed at INPA laboratory in Manaus, Amazonas. The conclusion of the samples analysis is estimated for the end of June 2009.

III. AMAZONAS³

A. Summary



The State of Amazonas encompasses an area of 1,570,745.68 km², roughly 2.3 times the size of the U.S. state of Texas, equivalent to circa 18% of the Brazilian territory. It is home to 3,341,096 inhabitants⁴ (2008 estimate). Its GDP is US\$ 24.85 billion⁵, with an income per capita of US\$ 7,436.83⁶. Its economy is mostly based in the industrial sector, especially in the manufacturing of electronics, two-wheeled vehicles, information technology products, chemicals, metallurgy and plastics. It is also home to 66 different indigenous ethnical groups.

Amazonas has 98% of its territory covered by forest, hosting, thus, one of the world's largest areas of rainforest, second only to the Amazon itself. It is estimated that 50% of the carbon stocks of the Brazilian Amazon can be found within the State. Furthermore, the State is one of the world's largest fresh water reservoir and is also home to one of the world's largest biodiversity.⁷

B. Overview of State Policies and Laws

Since 2003, the Government of the State of Amazonas has been implementing several environmental programs to protect forests, including: (1) expanding and strengthening State Conservation Areas (UCs), with a current total of 41 protected areas covering 19,007 hectares of Forest; (2) developing Ecologic-Economic Zoning (ZEE); and (3) improving the timber and non-timber extractive products supply chain through the Green Free Trade Zone (*Zona Franca Verde*) Program, which aims to promote development in a environmentally and socially sustainable way by providing technical assistance, subsidies and tax exemptions for non-timber extractive products.

In 2007, Amazonas enacted State Law No. 3135, the State Policy for Climate Change, Environmental Conservation and Sustainable Development (Lei da Política Estadual de Mudanças Climáticas, PEMC-AM).⁸ In doing so, Amazonas became the first Brazilian State to implement a specific policy to address climate change. Among its many objectives, Law No. 3135 aims to encourage “the creation of market instruments to enable the execution of projects for reducing deforestation emissions.”⁹ It established several programs, including the Programa Bolsa Floresta (described below), State Program for Environmental Monitoring of forest carbon stocks and biodiversity, “Friend of the State of Amazonas, the Forest and Climate” Seal labeling system to recognize and certify individuals, companies, and traditional communities that support the state's conservation programs, and a Private Foundation to fund the law's projects and programs. The law also specified that Amazonas is authorized to “alienate reductions of emissions and carbon credits of which it is the

3 This information is taken from the April 29, 2009 submissions of Amazonas: *Deforestation and Reduction of Emissions from Deforestation and Land Degradation (REDD) in the State of Amazonas, Brazil and Pilot Reduction of Emissions from Deforestation and Land Degradation (REDD) Projects in the State of Amazonas, Brazil* and subsequent revisions.

4 2008 estimate.

5 Estimated State GDP for 2008 is R\$ 45,636,777,082. US\$ figure (US\$ 24,847,159,079.87) calculated at 1.8367 Brazilian Reals per US Dollar, according to the rate used by the Brazilian Central Bank to calculate Brazilian GDP in dollars at current prices for 2008, which is available at <http://www.bcb.gov.br/pec/indeco/Port/ie1-51.xls>.

6 Figure obtained through the division of US\$ 24,847,159,079.87 by 3,341,096.

7 There are about 2500 different species of fishes in the State (about 10% of the world's total). Another example is the fact that, in a 150km circle around Manaus (the State Capital), more than 800 different bird species can be found (more species than in the United States and Canada combined).

8 State of Amazonas Law of Climate Change, Environmental Conservation and Sustainable Development, State Law No. 3135 (June 5, 2007), available at http://www.sds.am.gov.br/dsv/download/img_download/20080201105222LAW_OF_CLIMATIC_CHANGES_29_11_07.pdf.

9 *Id.* at Art. 2, II; see also *id.* at Art. 3, I.

beneficiary or the titleholder.”¹⁰ This legislation provides the legal framework necessary to implement REDD projects.

In order to fully implement the State Policy for Climate Change and the State System of Conservation Units (SEUC), in April 2008 the Government of Amazonas created the State Center for Climate Change (CECLIMA) and the State Center for Conservation Units (CEUC). CECLIMA's primary goals are to: (1) implement programs developed under the State Policy for Climate Change; (2) work towards the objectives in the UNFCCC and Kyoto Protocol and participate in the discussions regarding the national plan and policy for climate change; (3) support and create policies and market instruments that make PES and REDD programs and projects viable tools for countering the deforestation in Amazonas and promote sustainable development; (4) perform the State emissions inventory and estimate the greenhouse gas stocks periodically and systematically; (5) promote the use of alternative energy sources and greater energy efficiency in the State of Amazonas; and (6) develop and implement the State Forum on Climate Change, Biodiversity and Environmental Services and the Climate Change Adaptation Nucleus with civil society, traditional communities, research institutions, and the private sector. CECLIMA, through its Forests and Environmental Services Department, is seeking to develop strategic projects for regional and global climate change mitigation, especially through REDD and PES projects and programs in the State of Amazonas.

In addition, the State of Amazonas is in the process of developing a State Policy for Environmental Services and Forest Conservation, which aims to coordinate efforts by States, the Federal government, environmental foundations, NGOs, landowners, and social movements to combat deforestation and promote sustainable production.

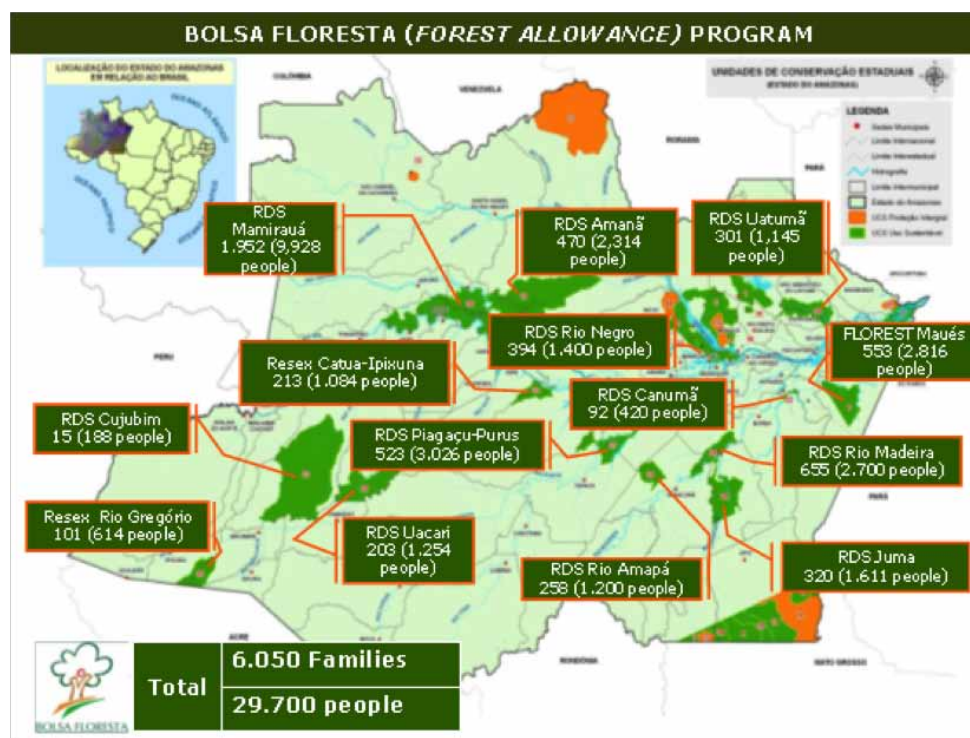
On July 31st, 2009, the State of Amazonas enacted its State Plan for Prevention and Control of Deforestation (Plano de Prevenção e Controle do Desmatamento no Amazonas – PPCD - AM), which, although not legally binding, provides a comprehensive approach for the reduction of deforestation in the State. The Plan focuses on three areas: territorial planning; environmental control; and support to sustainable productive activities.

C. Overview of Current and Planned REDD Projects

1. Programa Bolsa Floresta

The 2007 State Policy for Climate Change established the Forest Allowance Program (Programa Bolsa Floresta), implemented by the State Secretariat of Environment and Sustainable Development (SDS). The program seeks to compensate traditional peoples living on State Conservation Units (UCEs) for their active role in the preservation of the forest environmental services. Through payments to the families and to the community associations, as well as capacity-building and support to sustainable entrepreneurship, the program currently benefits 6,050 families living in 14 State Conservation Areas. The program is financed by the interests from endowment funds managed by the Amazonas Sustainable Foundation (FAS).

¹⁰ *Id.* at Art. 24 (referencing Art. 16, subsection IV of federal Law 11.284 of March 2, 2006 [need to locate]).



2. Juma Sustainable Development Reserve



In 2008, in partnership with the Amazonas Sustainable Foundation (FAS) and the Institute for Environmental Conservation and Sustainable Development of Amazonas (IDESAM), and with financing support from Marriott hotels,¹¹ the State of Amazonas implemented a REDD project in the Juma Sustainable Development Reserve. It is the first project of its kind in the Brazilian Amazon and has received the Climate Community and Biodiversity Alliance (CCBA) Gold Standard certification. It is also the first project to be implemented since the adoption of the State Policy for Climate Change, Environmental Conservation and Sustainable Development.



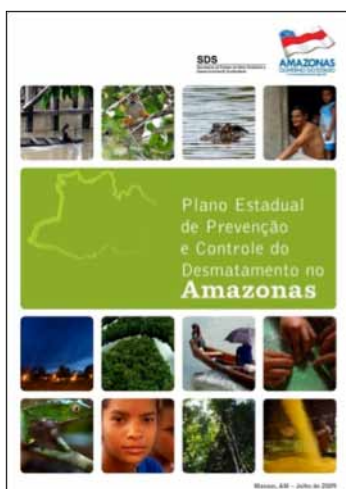
3. Carbon neutralization for the 2014 FIFA World Cup

In the bid to be one of the host cities for the 2014 FIFA World Cup, Manaus (the State capital) included a proposal to offset the greenhouse gas emissions related to the event by using a REDD mechanism, probably in the Madeira Sustainable Reserve. Although still a concept, the project will be definitely be implemented until 2014, given the fact that Manaus was successful in its bid.

4. State Plan for Prevention and Control of Deforestation (PPCD – AM)

The State Plan for Prevention and Control of Deforestation aims to reduce deforestation rates in the state by strengthening the environmental management in Amazonas, thereby ensuring the conservation, sustainable use of natural resources and

¹¹ Marriott provided an initial donation of US\$ 2 million and is offering offsets to their guests around the world to offset the carbon footprint generated by their stay with the Marriott.



social benefits in areas under high deforestation pressure.

Its specific objectives are:

- (1) To Implement integrated actions in order to increase the effectiveness and efficiency of environmental and land management in areas under intense pressure, based on three strategic axes: territorial planning, environmental control, and the promotion of sustainable productive activities; and
- (2) Promote pacts between the State authorities, Municipal and political leaders and the general society in order to generate support to the PPCD-AM strategy, and establish local agreements for reduction and control illegal logging.

IV. MATO GROSSO¹²

A. Summary

Brazil has the largest carbon dioxide emission in the world due to deforestation, currently releasing an average of 200 MtC per year to the atmosphere (Houghton et al. 2000), which is about a tenth of global emissions from deforestation (Houghton et al., 2005). At the same time, Brazil has one of the most ambitious laws in the world for the protection of forests. In addition to reserving approximately 43% of the Amazon as protected areas (Soares-Filho et al., 2008), Brazil is one of only two South American countries that demands the protection of a percentage of forests in the form of reserves from private landowners, who must also maintain riparian forests (Chomitz, 2007). Nonetheless, its ambitious laws are notoriously difficult to enforce, especially when the rules change abruptly. The percentage of legal reserves on private property changed from 50% to 80% in 1996 and many landowners were caught unprepared, and compliance with new demands of the modified Forest Code has been low.

The State of Mato Grosso is part of the Central-West region of and borders the states of Pará and Amazonas (to the north), the state of Mato Grosso do Sul (to the south), the states of Goiás and Tocantins (to the east) and the state of Rondônia and Bolívia (to the west). The state of Mato Grosso has a surface of 903.357,91 Km² and is the third state in Brazil to host three different biome types: Amazonic (52%); Cerrados (41 %); and the Pantanal (7%).

The state has three main river basins: 1) Tocantins-Araguaia, which corresponds to 14.7% of the surface of the state, 2) Paraguay, which covers 19.6% of the state surface and 3) Amazon, which occupies 65.7% of the territory of the state of Mato Grosso. In the geographic scope of the Amazon region, the state of Mato Grosso is part of the Eastern Amazon and represents a transition point for the other regions in Brazil, besides being a part of the Legal Amazon.

Currently, Mato Grosso has 141 municipalities, which account for approximately 10% of the national territory and a population of 2,854,642 inhabitants, which represents 1.57% of the Brazilian population (Source: IBGE, the Brazilian Institute for Geography and Statistics, 2007). Mato Grosso is the typical example of the frontier region, moving towards the consolidation of the modern agricultural and industrial production area. The state leads the national ranking in grains and oleaginous plants: it is the first soy and cotton producer and exporter, the third rice producer and the seventh sugarcane producer. The grain harvests, in a 10-year period, grew 236%, or 13% per year; whereas the overall numbers in Brazil were of 5.0% per year. As far as livestock is concerned, the cattle increased from 9 to about 27 million between 1990 and 2005, keeping an average growth of approximately 7.5% per year throughout this whole period.

In five years, the GDP of Mato Grosso grew 68.4%. In 2002, according to the IBGE, the state assets reached R\$20.9 billion, and in 2006 it soared to R\$35.2 billion, bearing in mind that the local GDP is made up of 70.2% of the participation of sectors related to agribusiness (agriculture and livestock).

Mato Grosso is the second largest Brazilian state in terms of wood processing in the Amazon. According to the Forest Facts in Amazon study (*Fatos Florestais da Amazônia*, by Lentini et al, 2005), in 2004, the 26 the timber pockets in Mato Grosso consumed 8,000,000 m² of wood.

The occupational profile of the soil and development in the state was strongly related to the opening of new areas. Up until the mid-2006, according to data from the ICV (2007), the deforested area of the state corresponds to 321,309 km² (36% of the total area). The agricultural area of Mato Grosso represents about 88,000 km², which corresponds to less than 10% of the total in the states. Livestock occupies about 233,000 km², which corresponds to 25.7% of the area of the state. These values are consistent with preliminary results of the *Censo Agropecuário* (Agricultural and Farming Census) of 2006 by IBGE, which identified a total area of farming space of about 69,000 km² and a total area of pastures of 228,000 km² (IBGE 2007a).

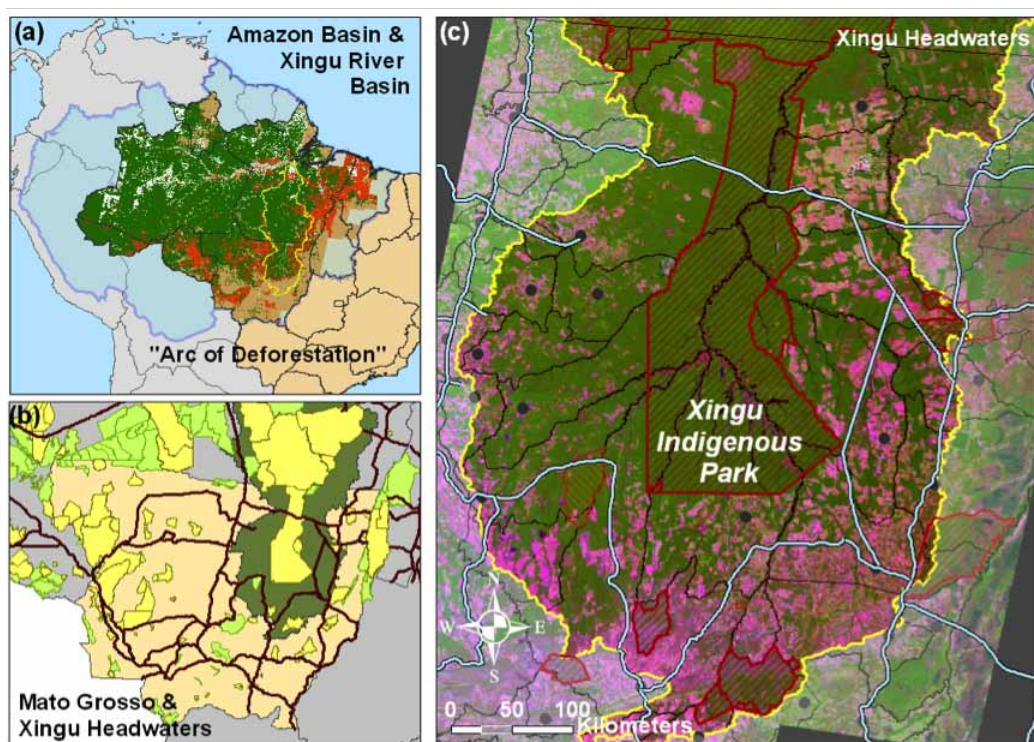
¹² This information is taken from the May 6, 2009 submission (and June 18, 2009 update) of Mato Grosso.

The state still has meaningful natural remainders of forests and *cerrados*. These areas add up to 583,729 km², and 70% are concentrated mainly around properties and other types of occupancies (407,842 km²) and 26% are protected areas (154,543 km²), encompassing 78 indigenous territories in 23 federal conservation units, 43 belong to the states and 45 belong to the municipalities distributed among reservations, parks, ecological stations and the *Reserva Particular do Patrimônio Nacional* (RPPN, the Private Reservation of the National Estate).

However, the rapid growth of the economy as a result of the firm expansion of the agriculture and farming sectors in the Mato Grosso territory has put great pressure on Mato Grosso's ecosystems, with different changes in the natural environment, in their form and intensity.

The region of the Xingu River headwaters, in the State of Mato Grosso, where the highly profitable expansion of soy plantations and cattle is scattered around the indigenous lands of fourteen tribes, is representative of several areas along the Amazon agricultural frontier. Private properties represent a quarter of the Legal Amazon and up to 50 percent of lands in the State of Mato Grosso, the state that has the highest deforestation statistics and greatest agricultural production. Despite the country's strict Forestry Code, compliance with the law is low. Like in the rest of Brazil, in the State of Mato Grosso "most greenhouse effect gases originate in the processes of soil change, deforestation and agricultural activities. Currently, approximately 97% of greenhouse gas emissions in the State of Mato Grosso are connected to these two sectors." In light of this fact, State action against the climate change must include actions to avoid deforestation.

Figure 1. Location of the Xingu River Headwaters



B. Overview of State Policies and Laws

The state of Mato Grosso has sought to ensure the compatibility of the socio-economical development with the environmental protection by implementing integrated actions, establishing partnerships, and creating norms and legal instruments, which will allow promoting the environmental preservation and adopting mitigation measures towards greenhouse gas emissions in the adaptation to the effect incurring from climatic changes.

The state of Mato Grosso has a series of policies to target the protection of the environment, among which are: *Política Estadual de Meio Ambiente* (the State Policy of the Environment), *Política Estadual de Unidades de Conservação* (the State Conservation Unit Policy); *Código Ambiental de Estado* (the State Environmental Code); *Política Estadual de Recursos Hídricos* (the State Water Resources Policy); and *Política Estadual de Resíduos Sólidos* (the State Solid Residue Policy).

Currently, the state has been working to protect the climatic system, to establish rules and legal instruments, which will allow the adoption of mitigation measures of greenhouse gases in the adaptation to climatic changes, preservation and expansion of carbon stocks and the use of new technologies of lesser admission for greenhouse gases. In order to allow this, Law no. 911, of April 15th of this year was passed, instituting the Mato Grosso Forum of Climate Changes (*Fórum Mato-grossense de mudanças climáticas*). The drafting of the Policy and the State Plan for climate changes will be accomplished with the participation of the Forum members.

Currently, there are proposals for laws aiming at 1) a reduction of the percentage of the ICMS (Brazilian Tax over the Circulation of Goods) in vehicles powered by renewable fuels and that present better energy efficiency; and 2) an exemption of the ICMS in operations with equipment and components for using solar and wind energy, and the installation of water heating systems by solar energy in public buildings.

In December 2008, with the purpose of promoting the rectification of rural properties and ownerships and their insertion in the Rural Environment Registration System (*Sistema de Cadastramento Ambiental Rural*) and/or the Environmental Licensing of Rural Properties (*Licenciamento Ambiental de Propriedades Rurais*), the Complementary Law No. 343 was sanctioned, creating the Mato Grosso Program of Rural Environment Regulation Program – MT LEGAL (*Programa Mato-grossense de Regularização Ambiental Rural*).

Programs

Several government programs related to the environment have been developed, including: The Conservation Program and Biodiversity Management (*Programa de Conservação e Gestão da Biodiversidade*), which aims at executing the monitoring and management of significant biome samples, throughout the conservation and sustainable use of biodiversity;

- the Forest Management Program (*Programa de Gestão Florestal*), which has the purpose of conducting the state's forest management for the treatment and exploitation of forest formations and valuation of environmental products and services by a consolidation of decentralization of forest management by rural licensing, sustainable management of multiple uses of native and planted forests according to the law of the state's forest policies;
- the Management Program of Degraded Areas (*Programa Gestão de Áreas Degradadas*), which has the purpose of promoting the reduction of environmental equities and the restoration of degraded areas in the Mato Grosso biomes, aiming at contributing with the conservation of biodiversity and the sustainable use of natural resources;
- the Management Program of Water Resources, which has the purpose of treating and managing water resources aiming at the social-economic development with environmental quality;
- the Solid Residue Management Program, which seeks to promote zoning mechanisms for the management of solid residues in the state; the Polluting Activities Control Program, which aims at accomplishing the monitoring and zoning of space, licensing, checking and monitoring projects with a polluting potential; and
- the Integrated Environmental Education Program (*Programa de Educação Ambiental Integrada*), which seeks to implement promotion activities, follow-up and strengthening of guidelines for environmental education in the state.

Although the climate change actions have been receiving a lot of financial support by the above-mentioned programs, with the review of the Multi-year Government Plan, (PPA, or *Plano Plurianual de Governo*) was created with the Climate

Protection Program.

Plans

At the end of 2008, after intense studies, proposals and discussions the State Plan of Water Resources was concluded and is currently being presented to the society at large and will then be approved by the government. This Plan is a planning instrument that establishes general guidelines about a Water Resources in the State, with the purpose of promoting the harmonization and the fitness of public policies to seek the harmonization between water supply and demand, in a way to ensure the water availabilities in quantity and quality for the rational use of resources. There is still a proposal of programs and projects for its protection, recovery and management of this resource, seeking to guarantee its sustainable use.

Another important management instrument is the Prevention Plan and Deforestation Control and Slash-and-Burn Agriculture (*Plano de Prevenção e Controle de Desmatamento e Queimadas*) for the State of Mato Grosso – PPCDMT, which is currently being drafted. It is now being made available for public consultations, and workshops will be provided later to be organized with government institutions and representation of several social segments. This Plan has in its core: 1) the integration of monitoring and control instruments with positive incentives to sustainable practices and measurements for agricultural zoning, within the view of sustainable development; 2) the shared and participative management, involving partnerships between the three levels of government (federal, state, and municipal), civil society organizations and the private sector; 3) the distribution between society and rural populations of the maintenance costs of environmental services associated to the conservation of forests and other forms of native vegetation. Among the goals of the Plan, it is worth mentioning: 1) the elimination of the illegal deforestation and the strong reduction in emissions of CO₂ and other greenhouse gases associated with the deforestation and fires that destroy native vegetation; 2) an increase in the competitiveness of products in the agricultural, livestock and forest sector of Mato Grosso, in national and international markets; 3) the strengthening of the state system of forest management, with governance and transparency, in alignment with the goals of SISNAMA; 4) the generation of jobs and income and the strengthening of social liabilities, associated to the conservation of forests into the better use of areas that are already deforested; and 5) the involvement of the state of Mato Grosso in new international cooperation mechanisms within the scope of the United Nations Framework Convention on Climate Changes (UNFCCC) and conservation of biodiversity (CDB), connected to the Brazilian government policy within the scope of the above mentioned convention.

Among government actions for dealing with climatic changes coming from anthropogenic activities, the drafting of the State Plan of Climatic Changes is underway. In order to implement it, several government sectors, educational institutions, NGOs and the society at large should participate in the Mato Grosso forum of climatic changes. The Plan will define actions and measurements for mitigation and adaptation to climate seek a balance between economic development and reduction of green house gases, as well as encouraging the use of renewable energies, use of biofuels, and reduction of deforestation rate in the Mato Grosso biomes, among others.

The planning and territorial management – Socioeconomic and Ecological Zoning of the State – ZSEE, is an instrument that has as a goal the efficiency and improvement of the life conditions of the population, from the development of sustainable economic and environmental activities.

The ZEE is a result of an integrated multidisciplinary work of physics, biology and social economics and of the knowledge about the potentialities and fragility of the several environments in the state. This important instrument is in a final phase of public hearings, with the purpose of receiving feedback on the population at large.

Finally, the State of Mato Grosso has established the Registry for Socio-environmental Commitment of Xingu (Cadastro de Compromisso Socioambiental do Xingu) (CCSX), a mechanism to encourage voluntary socio-environmental management of rural properties. For participating properties, the CCSX undertakes a Socio-environmental Analysis that gathers detailed information about numerous factors, including hydrology, soils, conditions of permanent preservation

areas, erosion, and employee work and living conditions for the evaluated property. The Analysis aims to identify the social and environmental assets and liabilities of a property.

Once the Socio-environmental Analysis is completed, “points” are awarded to the property, which determine whether the property enters the Suitability (or Adequacy) Phase or Awards Phase. For example, with respect to vegetation cover, CCSX requires that properties maintain a minimum of 55 percent native vegetation cover in Amazon Biome areas and 40 percent in Savannah Biome (Brazilian *Cerrado*) areas. This vegetation cover should be located where it provides the maximum ecological value, protects riparian forest and adjacent areas, and maintains corridors between forest fragments “on the property and around it.” Riparian areas provide the “environmental purpose of preserving hydric resources, landscape, geological stability, biodiversity, the genetic flux of the fauna and flora, protecting the soil and assuring the well-being of the human populations. Sizes of the APPs vary according to the biome and the region.”

Properties that receive less than 68 points are placed in the Suitability Phase. In this Phase, the property will have access to technical and financial assistance to meet the requirements of its Environmental Suitability Plan. In order to gain access to the Awarding phase, the property must achieve a minimum of 68 points, 36 of which should be connected to the “A point.” If the property does not meet the goals of its Environmental Suitability Plan in its first year in this Phase, it will receive a warning. In the second year, it will be suspended from the “suitability benefit compensation,” and in the third year, the property will be removed from the records if it is not in compliance.

A property that achieves 68 points or above (36 of which were related to point A) is placed in the Awarding Phase. Any non-compliance with the goals established in the property’s Suitability Plan will result in the suspension of the receipt of Award benefits, and the property will be placed back in the Suitability Phase. Benefits are distributed in proportion to the points earned by the property.

With the point system, it is possible to advise farmers on how to: (1) explore assets in a responsible manner; (2) search means of socio-environmental improvements to address the least favorable points; and (3) seek incentives for registered farmers.

C. Overview of Current and Planned REDD Projects

Project “Supporting the State Action of Facing Climate Changes” (*Apoiando a Ação Estadual de Enfrentamento às Mudanças Climáticas*) – developed by the Secretary of the Environment of the State – SEMA, is being financed by the Strategic Program Fund – SPF (the Ministry of Foreign Relations of the United Kingdom of Great Britain and Northern Ireland), through the British Embassy in Brazil and with the technical support from ICLEI – Local Governments for Sustainability, which have the goal of supporting the state of Mato Grosso Government in developing and implementing state actions to deal with climate changes, among which the subcontracting of consulting for drafting the Climate Changes State Plan.

Project for reducing emissions from deforestation and forest degradation- REDD in the northwest region of Mato Grosso (underway) – counts with the participation of the state government, through SEMA, *Casa Civil e Militar* (Military and Civil House), the NGOs *Instituto Centro de Vida* – ICV and TNC -The Nature Conservancy, as well as mayors offices of seven municipalities in the Northwest region from the following sectors: forest, business agriculture, family agriculture and traditional and indigenous populations.

The data for the region for the pilot plan have the following numbers:

- Total area: 10.5 million hectares (35% occupied by indigenous lands and 8 % occupied by preservation lands)
- Accumulated deforestation: 1.8 million hectares (18%)
- Remaining forest: 8.7 million hectares

- Estimate remaining forest carbon: 1.12 billion tons of carbon (Source: ICV)

Some strategies are already previously defined, which are being discussed in the process of implementing the project, Agricultural Regulation, Environmental Licensing, technical-economical actions in private/public areas, actions referring to possessions and actions in protected areas.

MT LEGAL (Complementary Law Number 327 of August 22, 2008)

Created the Mato Grosso Program of Rural Legalization Environment – MT LEGAL, which disciplines the phases of the Environmental Licensing Process of Rural Real Estate and establishes other regulations, it has as a goal to promote the regularization of properties and rural possessions and their entrance in the Rural Environment Registration System and/or the Environmental Licensing of Rural Properties – SLAPR.

Technical Cooperation Term

Signed in April during the XIV Katoomba Meeting Brasil/ 2009, has the purpose of establishing the cooperation between the IBAMA, the Department of the Environment and the State of Mato Grosso by SEMA to conduct joint activities geared to the reduction of illegal deforestation, the strengthening of the Rural Environment Registration System and the Environmental Licensing of Rural Properties, procedures that integrate the Legal MT. The goal of governments is to register 140 thousand rural properties and to cancel environmental liabilities.

CCSX

There are currently 46 properties registered with the CCSX, totaling an area of 602,711 ha and representing approximately 1 percent of the State of Mato Grosso and 3 percent of the region of the Xingu River headwaters. In order to estimate the emissions avoided by the implementation of CCSX on the 46 properties, a historical analysis of deforestation in the region between 1996 and 2006 was conducted. Two simulations were run, with the year 2007 as a reference. The first, considering a business as usual deforestation rate through 2017 and the second, assuming the implementation of CCSX, yielded the following results. The emissions avoided with the implementation of CCSX are approximately 230 M tCO₂eq. or the total greenhouse gas emissions of the State of Mato Grosso in 2006 (approximately 216M tCO₂eq).

This analysis demonstrates the potential of CCSX to contribute to the achievement of the Mato Grosso's State Climate Change Plan.

V. PARÁ¹³

A. Summary



25% of the total area of the Legal Amazon Region in Brazil is located in the State of Pará, which total territory reaches 1,247,689.515 km² (124,768,951 ha) and maintains approximately 90,000,000 ha of remaining native forest areas. Over than 7,000,000 people are living in 143 municipalities in Pará.

In the context of protected areas in the State of Pará there are 45 conservation units of several categories under federal management (18,000,000 ha), and 19 conservation units (13,000,000 ha) under management of the State of Pará, in addition to indigenous lands under federal administration (30,300,000 ha). In Pará there are almost 40 indigenous groups, and the biggest and most important indigenous

communities are the Kayapó, Mundurucu and the Andira Marau.

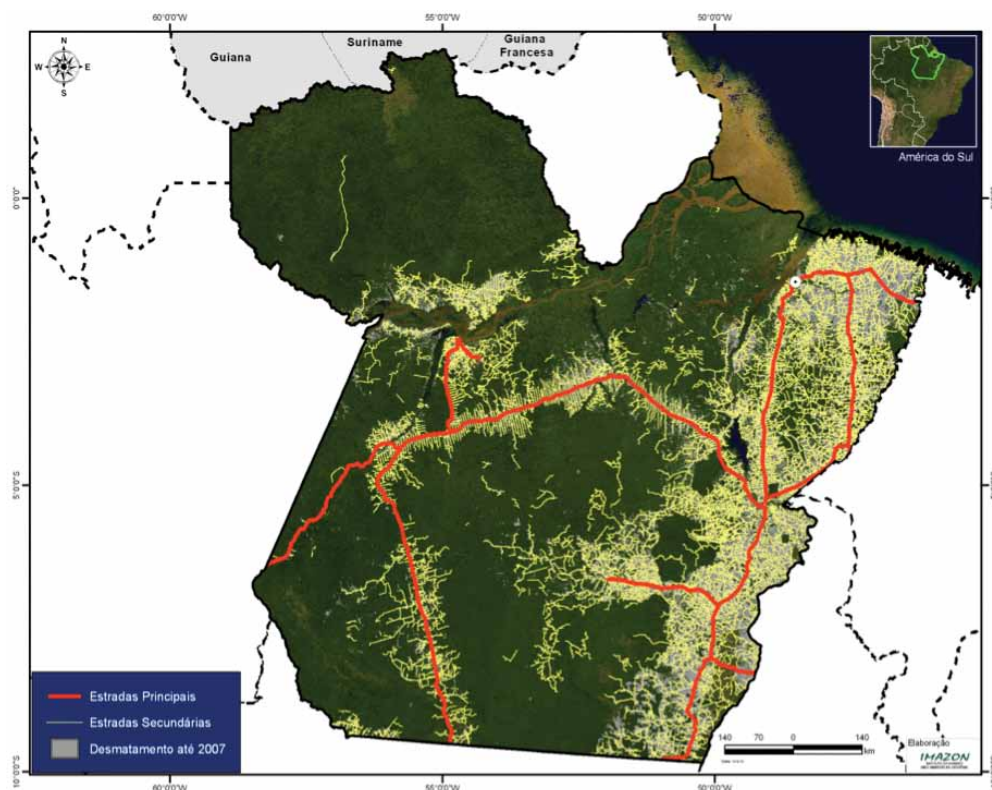
The protected territory corresponds to 54% of Pará, approximately 67 million hectares distributed over areas where historically human activities have been putting great pressure on the forest. Part of these conservation units - 20 million hectares - had been created in the past 3 years, having an important function in the prevention of deforestation in the region. Although the high index of deforestation, Pará still has 75% of its area covered by native forests. The conservation of this forest potential is an urgent need for the agenda of global climate change. According to recent studies of the National Institute for Research in Amazon (INPA), if deforestation in Pará reaches 40% of the State territory, it would generate irreversible effects for all the Amazon forest, due to interruption of pluvial standards in the region.

In this context, the State of Pará is fighting deforestation. This has allowed a reduction in land clearing of more than 50% over the past three years. This effort had great repercussion in carbon emission reduction. As deforestation is accountable for more than 70% of the Brazilian emissions, fighting deforestation is, therefore, directly related to climatic changes.

The GDP of the State of Pará is R\$ 39.15 billion (US\$ 20 billion) and represents the least growing rate in the Brazilian North Region, with 4.17% (IBGE, 2005). Share of the Brazilian economy: 1.8% (2005). GDP per capita in Pará was in the year 2005 R\$ 5,617 (US\$ 2,800 app.), less than the half of Brazilian GDP per capita (R\$ 11,658). The largest component of the GDP is the service sector 40.9%, followed by the industry sector 36.3%. Agriculture represents 22.8% of GDP (2004). Pará exports iron ore 31.1%, aluminum 22.2%, wood 13.5%, ores of aluminum 8.3%, others ores 7.9% (2002).

The most important economic sector in Pará is the mining sector, which represents 14% of the GDP of the State. The state's economy is also based on vegetal extraction, on agriculture and cattle raising. The state has one of the largest mining areas in the Country, located in the Carajás Mountains, a mining province where the Ferro Carajás Project is based. The complex produced 296 million metric tons of iron ore in 2007, exporting the product to many countries.

¹³ This information is taken from the August 2009 submission of Pará.



B. Overview of State Policies and Laws

- (1) The Government of the State of Pará is looking for a transformation of its rural economy, still based on illegal deforestation and on extensive cattle raising of low income, to a sustainable agro-forest economy, fomenting economic alternatives for the population and, at the same time, contributing to reduction of deforestation and to recovering biodiversity. In this context is important to make mention to the efforts to build a legal base for this desired changes of the socio economical reality. Pará was the first Brazilian Amazon State to approve his plan to prevent, control and search for alternatives to deforestation (the so-called Plan for Prevention, Control and Alternatives to Deforestation in the State of Pará – PPCAD-PA, instituted by the State Decree n° 1697, of June 8th, 2009), an important legal tool to promote real changes in the conservation and production platform in Pará. Under over then 50 fixed goals of this PPCAD-PA is previewed the implementation of REDD strategies for development of the State of Pará.
- (2) State Decree N° 1764, of June 25th 2009, established the Executive Work Group for the creation of the Pará Forum of Climate Change (Fórum Paraense de Mudanças Climáticas). This Work Group is working on a proposal of a Decree that establishes the Climate Change Forum of the State of Pará which shall present a state bill for Climate Change. It will establish in this sense that inside the Forum of Climate Change the existing PPCAD-PA will be periodically accomplished, reviewed and renewed which his REDD objectives, under other over than 50 goals.
- (3) Online Registration for Rural Environment (Cadastro Ambiental Rural – CAR) for the purposes of standardizing environmental activities and determining areas of legal reserve and permanent protection. This CAR-online have to register all environmental activities that are developed on any rural property in the State of Pará; this registration need to be made with only a declaration so that the registering work can be made quickly).
- (4) Ecological Economical Macro zoning in the State of Pará (Law n° 6.745, May 6th, 2005). The Ecological Economical Zoning of the west side of the State of Pará is already done (19 municipalities in 33,000,000 ha, already approved by the Conselho Nacional de Meio Ambiente – CONAMA (National Council for Environment), and accepted by the

President of Brazil. The Ecological Economical Zoning of the east side of the State of Pará is under execution.

(5) Further actions to be developed are discussed in this Appendix because they relate closely to the above described current activities. Some of them are already under execution. This is the case of the creation of a work group with the primary objective of developing a Climate Change Policy for the State of Pará:

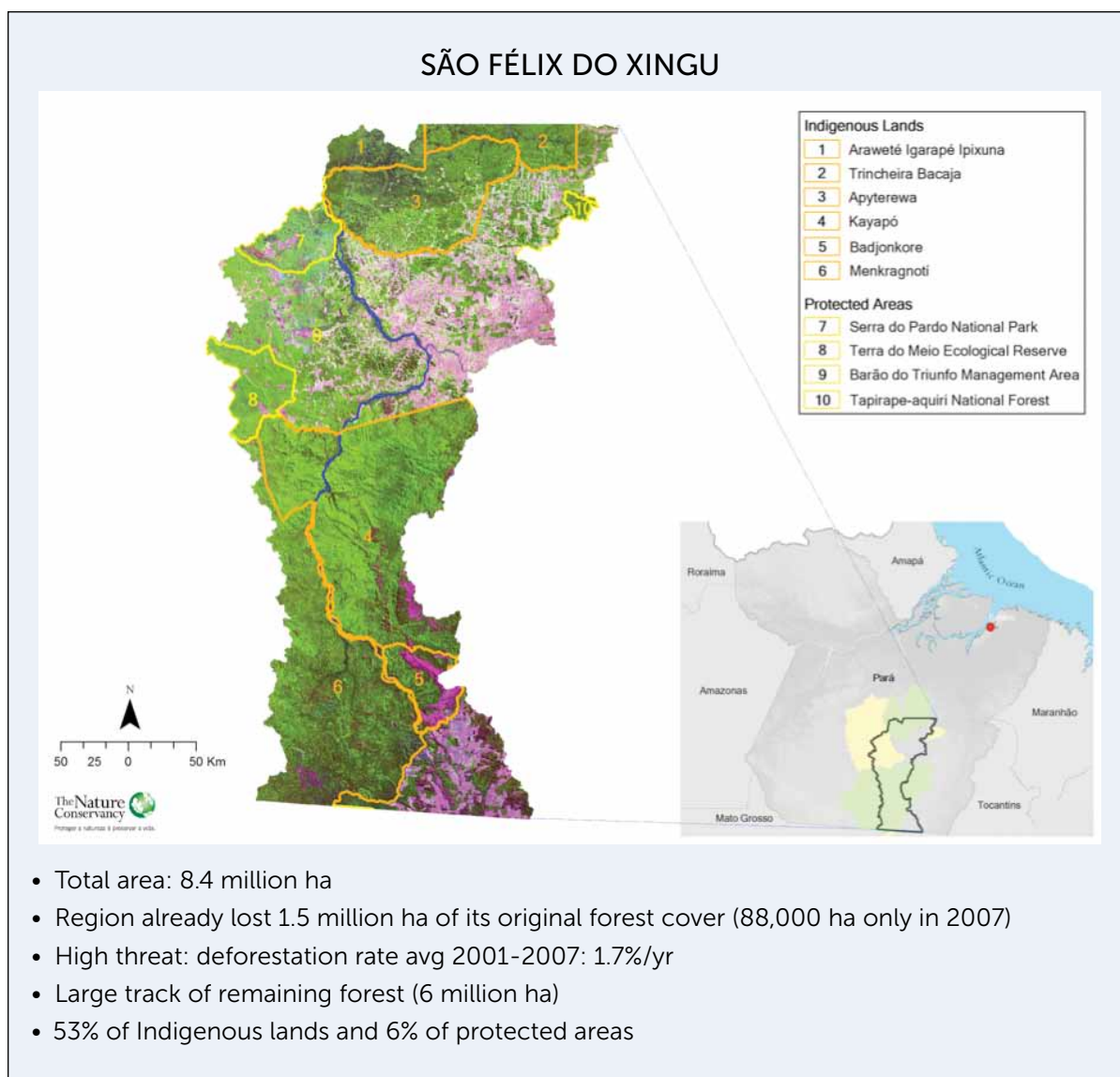
- Establishment of the SEMA Work Group to propose a calculation method for the state limit greenhouse gas emissions (GHG), with the purpose of presenting a proposal for the Resolution for the State Council of the Environment in the State of Pará (COEMA-PA), for the establishment of the Limit of GHG Emissions for the State of Pará.
- Establishment of the SEMA Work Group for the planning of the program and the pre-requisite plan of the Information Technology System for the Measuring Program and System, Monitoring, GHG and Carbon Stock Emissions Verification in the State of Pará – GEECarb.
- Establishment of the SEMA Work Group for drafting the Bill for the political institution of Climatic Changes in the State of Pará, which should contain strategies, criteria and standards for REDD projects.
- Establishment of the SEMA Center for Climate Change for drafting the Reference Term for the Integrated System for GHG Monitoring, Forest Carbon Stock and Accountability of Carbon Credits from REDD Activities in the State of Pará.
- Establishment of a SEMA Work Group for drafting of the program and pre-requirement plans of the Information Technology system for the Accountability System for Forest Carbon Activities in the State of Pará – SisCarb.
- Establishment of the SEMA Work Group for the drafting of the Installation Plan for Conservation Units in the State of Pará.
- Establishment of the SEMA Work Group for drafting the program and pre-requirement plan for the integration between Information Technology and Online Registration for Rural Environment (Cadastro Ambiental Rural – CAR), by using data from the Terra Legal Plan (Plan for Ownership Regularization in the Amazon Region) from the Ministry of Rural Development - MDA), and the Land Institute in the State of Pará (ITERPA, Instituto de Terras do Pará) and the Regional Management of Federal Territorial Properties (GRPU, Gerência Regional do Patrimônio da União).
- Establishment of the Petrobrás-Embrapa-SEMA for drafting Community Economic Energetic Alternative Plan – PAEEC, Plano de Alternativas Energéticas e Econômicas Comunitárias).
- Creation of a SEMA Center for Climate Change – NMC, Núcleo de Mudanças Climáticas.
- Establishment of the Reference Term and beginning of the Official Geodetic Grid of the State of Pará (Three finished municipalities: São Félix do Xingu, Tucumã and Água Azul do Norte; TNC, in partnership with SEMA-PA.).

C. Overview of Current and Planned REDD Projects

(1) Project One Billion Trees for the Amazon. Recovering deforested areas of legal reserves through restoring the biodiversity of the region and contributing for the agenda of global climate change: Reforesting 1 million hectares of degraded areas of legal reserve with native species; and Retention of 400 million tons of carbon, or carbon capture equivalent about 1.5% of the worldwide total of emission reductions needed to limit global warming to 2°C up to 2030.

- (2) Calha Norte Project (Conservation International – CI and AMAZON in partnership with SEMA-PA). The Calha Norte *Project Design Document* (PDD) aimed to develop a REDD project in three State Forest located at the Calha Norte region. They are Flota Paru, Flota Trombetas and Flota Faro, totaling 7.4 millions of hectares. The PDD will contain all elements to certificate the project at CCB and VCS, including area characterization (socio economic and biological aspects), baseline, trends for deforestation, actions that should be implemented to reduce the emissions, risk analysis of the project implementation and etc. Also it will be approved by local communities. The partners of project are Conservation International and Imazon, and SEMA is the aggregator.
- (3) Forest Carbon Pilot Project São Félix do Xingu (The Nature Conservancy -TNC, in partnership with SEMA-PA). To demonstrate that a REDD program built together with governments, private sector, landowners, local communities, and NGOs can reduce carbon emissions from deforestation and degradation and create wealth at the local and regional scale and have impact on global climate.

In close collaboration with the State Government of Pará and other partners, the Nature Conservancy is developing one large-scale forest carbon pilot project. This project will be implemented in São Felix do Xingu municipality, which covers 8.4 million ha within the ‘arc of deforestation’, the most active land-use frontier in the world, accounting for nearly



half of all tropical forest loss during 2000-2005. The demonstration project is expected to **prevent deforestation of approximately 0.8 million ha in the next ten years, equivalent to a reduction in emissions of 440 million tons of CO₂.**

The forest carbon pilot project will comprise:

- a. the development of an integrated carbon accounting framework for the pilot region including public, indigenous and private lands;
- b. the implementation of a range of strategies leading to sustainable practices; and
- c. delivery of incentive payments based on the contribution to avoided deforestation and degradation.

Results of the feasibility Analysis

During six months, a scoping phase was conducted to explore the opportunity for a large-scale forest carbon demonstration program. Results of the scoping show that:

- a. there is still significant high-quality forest in the pilot area, but the threats—from cattle ranching, logging, and land speculation—are real and urgent;
- b. degradation has been a significant portion of emissions and must be integrated into a forest carbon methodology and emission reduction strategy;
- c. there is a strong private sector interest in responsible sourcing of beef in Pará;
- d. indigenous reserves and protected areas consolidation is an important component of reducing emissions; and
- e. generating and managing information for decisions will be critical for near-term, but especially long-term success of forest carbon programs.

State Secretariat of Environment and TNC Proposed Plan for REDD in Pará

There is an opportunity for the development of large-scale, government-led forest carbon programs in Pará that link multiple emission reduction strategies in a coherent carbon accounting framework. The proposed plan includes:

- a. **Carbon accounting:** Develop an integrated methodology for carbon monitoring and accounting that considers reduction in deforestation and degradation and reforestation and is compatible with a national-level accounting framework; develop a credible reference emission level that addresses planned and unplanned deforestation and degradation.
- b. **Emission reduction programs:** Work with ranch-owners and the beef industry to comply with environmental legislation, improve ranching practice and develop forest management on private lands; work with forest managers to reduce emissions from timber logging; support alternative livelihoods to ranching for small-farmers such as cocoa and milk production; develop mechanisms to pay for environmental services from forest reserves on private lands; work with governments and indigenous communities to provide financial incentives to strengthen and increase the level of protection of public protected areas and indigenous lands and to create a long-term sustainable financing mechanism for these areas.
- c. **Incentive payments:** Raise significant donor and investor finance to allow for incentive payments for reductions compared to the reference emission level.
- d. **Information for decision-making:** Generate improved carbon, economic, social, and biodiversity data; integrate data for analysis; develop processes for using data for consistency of decisions and coherence across scales.

INDONESIA

I. ACEH¹⁴

A. Aceh Summary



Aceh comprises roughly 12% of the Indonesian Island of Sumatra at 5.74 million hectares. (Provincial Forestry Office 2007, cited in Blackett and Irianto, 2007). The province boasts the largest contiguous area of forest remaining on the Island of Sumatra stretching from the northern tip of the island (the city of Banda Aceh) right down to the border with North Sumatra. The forest is located primarily in the interior of the island spread over a strongly dissected mountain range, the Bukit Barisan range. Along this mountain range which stretches down the spine of northern Sumatra two distinct but connected ecosystems namely the Leuser Ecosystem and the Ulu Masen Ecosystem occur. The forests, although distinct in flora and

fauna due to their geological divisions comprise of several similar ecosystem types namely; Lowland forests; Montane forests; Freshwater Swamp forests; Mangrove forests and; Peat Swamp forests.

Gross Regional Domestic Product (GRDP)

- The contribution from primary sectors is still more dominant than the other sectors, both based on the current and constant prices. In addition, the mining and quarrying sectors and manufacturing industries are also considered to have significantly contributed to the GRDP.
- The economic growth of Nanggroe Aceh Darussalam Province as described in GRDP of constant price 2000 is very much influenced by oil and gas mining. In 2004, the mining sector and manufacturing sector declined by 24.06% and 17.80% respectively. The decline of these two sectors has made the trading sector decline by 2.7%.
- In 2004, there were three growing sectors, namely electricity (20% increase), finance (18% increase) and services (19% increases). However, the increase obtained by these three sectors could not counterbalance the decrease of the sectors of mining, manufacturing and trading, making the GRDP of NAD Province decrease by 6.1%.
- If the GRDP is computed without oil and gas sector, then the economy of NAD Province during the period 2002-2004 increased by 7.96% in 2002; 3.7% in 2003, and 1.76% in 2004. In addition, the sectors of agriculture, including fishery and forestry, increased by 3.27% in 2003. In 2004, it increased by 6.04%. The agricultural sector was able to accommodate 870,599 people in 2004, and it is projected to increase in 2006.

B. Overview of Provincial Policies and Laws

- Ministry of Forestry Regulation P. 30/Menhut-II/2009 Procedures for REDD
- Law Number 11 of 2006 –Law On Governing Aceh (UU No. 11/2006)
- Gov. Regulation Number 26 of 2007 – Spatial Planning Regulations (PP 26/2007)
- Gov. Regulation Number 6 of 2007 – Forest Arrangement and Formulation of Forest Management Plan as well as Forest Exploitation (PP 6/2007)

¹⁴ This information is taken from the June 2009 submission of Aceh.

- Indonesia has recently implemented a set of national REDD Regulations promulgated by the Indonesian Ministry of Forestry as of 01 May 2009. These regulations give specific direction on issues related to REDD project development such as who may initiate a project, where it may be initiated and under what conditions. The Regulations also set forth certain procedural guidelines for approval by the REDD Commission (yet to be established by the Ministry of Forestry but it is anticipated within the next 90-100 days) that would result in an REDD License. Indonesia is the first country in the world to have implemented a national REDD policy and it is expected that this will be followed up shortly by additional supportive regulations.

C. Overview of Current and Planned REDD Projects

This project addresses these necessary steps, along with structuring an equitable and consultative

process for community and local authority engagement and enabling credit flows to benefit the broadest possible sector of Acehnese society ensuring substantive and sustainable development outcomes. The most important concept here is that this project will enable commercial financial flows to be used at the community level in Aceh, reducing aid dependency and generating incentives for sustainable natural resources throughout the governance hierarchy. This initiative will be implemented by the Government of Aceh, non-government organizations and the private sector in support of the Ulu Masen REDD project.

Through a process of project design, detailed implementation and validation through external auditors, this project will build the capacity of key stakeholders within the Government of Aceh to resource and manage the emerging markets for payment for ecosystems services. This capacity will be increased in the legal, forestry, remote sensing, community engagement and monitoring areas of the provincial and relevant district authorities. Substantive technical documentation will be generated with specific purposes of commercializing Aceh's 'avoided deforestation' potential, a world first.

Although effective monitoring systems will be clearly built into the project, additional adaptive management systems will be developed at the community level to monitor the impacts of benefit sharing arrangements designed through this project. The implementing partners to the Government of Aceh will be Fauna & Flora International as well as Carbon Conservation and Merrill Lynch as commercial stakeholders.¹⁵

This project will develop and test carbon finance mechanisms to reduce greenhouse gas emissions, contribute to sustainable economic and social development and conserve biodiversity over the next 30 years. The project will use land use planning and reclassification, increased monitoring and law enforcement, reforestation, restoration, and sustainable community logging on 750,000 ha of forest in the Ulu Masen Ecosystem and peripheral forest blocks located in the Indonesian Province of Nanggroe Aceh Darussalam (hereafter referred to as Aceh Province). The project estimates proposed activities will reduce deforestation in the area by 85% and 3,369,848 tons of CO₂ emissions can be avoided each year. Adequate carbon finance is essential for this project to succeed.

In August 2009, the 3rd International Project Steering Committee meeting took place in Banda Aceh and was attended by Merrill Lynch (ML), Carbon Conservation (CC), Fauna & Flora International, and the Government of Aceh. Fauna & Flora International is continuing to provide a wide range of assistance to the project, most recently in the form of a re-allocation of funding for REDD work and recruitment of forest carbon specialist Sam Citroen. Mr. Citroen is advising The Government of Aceh dedicated REDD taskforce within its recently launched Aceh Green policy unit, a key implementing agency. The newly established government REDD taskforce with dedicated staff drawn from economics, law, and forestry will work directly with the FFI forest carbon specialist to move forward with the consultative process for community and local authority engagement, the importance of which are clearly recognized. This taskforce and government REDD outreach will be funded in part through an Aceh Green managed UNDP grant and will be based under Aceh Green.

In addition to the formation of the REDD taskforce, an important development is the national Ministry of Forestry's legal review and issuance of an opinion on Aceh's right to transact carbon independently. Additionally, the formal protected area status of the Ulu Masen Ecosystem has now been approved. The next big milestones for the Ulu Masen REDD Project are the VCS audit and community consultations discussed above.

¹⁵ In addition, the International Development Law Organization provided training to two Acehnese staff involved during the early stages of the project.

II. PAPUA¹⁶

A. Summary

The total area of Papua province is 317,066 km², or 20% of Indonesia's land area. The population of the Province of Papua is 1,875,388 people (2005), mostly indigenous communities speaking 250 languages. The annual population growth rate is 3.18%. The mining sector provides most of the provinces revenues (54.61%) followed by forestry, fisheries and agriculture with 17.53%. However, the mining sector only employs 0.94% of the work force while the forestry, fisheries and agriculture sector provides employment for 73.20% of Papua's work force.

The Indonesian region of Papua (Papua and West Papua provinces) is covered by the largest expanse of intact tropical rainforest in Southeast Asia. The forest estate covers over 42 million hectares or 80% of Papua's land area. This represents 24% of Indonesia's total remaining forested area. Indonesian Papua is home to 54% of Indonesia's rich biodiversity. It is considered by many to be one of the last tropical frontier areas on earth. Papua's lowlands contain a mixture of unique Asian and Australian plant species. Almost 60% of the mammalian population of Papua is endemic to the island, as are more than 40% of Papua's birds.

Actual forest cover of Papua province is 31.4 million hectares, with 7.6 million hectares designated as protection forest, 7 million as conversion forest, 10.2 million as production forest and 6.5 million hectares designated for conversion to agriculture.

Papua is typical of many resource-rich regions, where high revenues have not yet been translated into improved welfare for the majority of the rural population. Much of the difficulty in delivering improved livelihoods is the result of previous policies governing land and use of natural resources, which effectively override customary tenure in an effort to facilitate investment. It is the aim of the current governor to develop policies to ensure that forests benefit the people of Papua.

While deforestation in Papua has been limited in comparison to Kalimantan and Sumatra, the last five years have seen a dramatic increase in illegal and unsustainable logging. In February 2005, a report by the UK-based Environmental Investigation Agency and the Indonesian NGO Telapak exposed massive exports of *Merbau* logs from Indonesian Papua to China, in contravention of Indonesia's log export ban. Large-scale timber concessions are under investigation for unsustainable and illegal logging practices. Since 2007 increased efforts of forest law enforcement by the Indonesian Ministry of Forestry and provincial authorities have resulted in a significant reduction of illegal logging in Papua.

New threats are emerging with the rapidly developing market for palm oil for use as vegetable oil and bio-fuel. Indonesia is planning to develop 20 million hectares of new oil palm plantations, with 2 million hectares to be developed in Papua. Legally only forest designated as conversion forests can be developed for plantations. While conversion forests elsewhere in Indonesia are for the most part highly degraded wastelands, secondary or over-logged forests, Papuan forests classified as conversion forest still contains large tracts of intact primary lowland rainforests. Without REDD intervention much of this forest area will be converted. With 6.5 million hectares of forest land in the province of Papua designated as conversion forest, the potential CO₂ emissions from deforestation are very significant.

B. Overview of Provincial Policies and Law

On April 26th, 2007 the Governors of Papua, Papua Barat and Aceh Provinces, realizing their special position as stewards of the largest natural forests in Indonesia, committed to a joint policy of environmentally friendly, sustainable economic development and reduction of greenhouse gas emissions from deforestation and degradation (REDD) targeted at reducing poverty, protecting community rights over natural resources, stimulating employment, and attracting investment. The Governors of Papua and West Papua provinces, recognizing the importance of climate change, committed to:

16 This information is taken from the June 2009 submission of Papua.

- Recognizing, respecting and developing the forest ownership rights of the local community, especially customary communities, as stipulated by the Papua Special Autonomy Law.
- Tackling land conflict through securing community access to forest land.
- Prohibiting log exports that, in the past, has not benefited the people of both provinces.
- Accelerating home industry development and community forestry.
- Revoking the licenses of forest concession holders, active or non-active, unless they add value and develop forest industries in Papua and Papua Barat.
- Enforcing the law through sufficient forest rangers/police
- All types of forests in Papua are dedicated to save planet earth and future humanity – including the wise and prudent development of green industries.

Papua and Papua Barat provinces committed to develop REDD pilot projects that encompass these policies in an area of no less than 500,000 ha. Both provinces are committed to re-designate up to 5 million ha of conversion forest for carbon trading.

The Indonesian Government has since established the world's first national REDD decree (Ministry of Forestry Regulation No. 30/Menhut-II/2009), which allows forest concession license holders as well as customary and village forest managers to implement REDD demonstration activities. The Papua Provincial Regulation on Sustainable Forest Management 2009, based on the Papua Special Autonomy Law No. 21/2001 and national forestry laws (e.g. Law 41/ 1990) provides the provincial legal framework for the implementation of REDD projects in Papua. This regulation recognizes customary forest rights and emphasizes community-based forest management. The provincial government will set up a provincial multi-stakeholder working group to develop provincial REDD policies and implementation guidelines based on the national REDD decree and the Papua Provincial Regulation on Sustainable Forest Management.

The province of Papua calls for bi-lateral and multi-lateral support and technology transfer to develop a sub-national carbon baseline and carbon monitoring system for Papua within Indonesia's emerging national carbon accounting framework.

C. Overview of current and planned REDD demonstration activities

Jayapura REDD Pilot Project (FFI/ Macquarie Bank)

The Provincial Government of Papua has signed an MOU with Macquarie Bank and Fauna & Flora International to survey identified sites and subsequently prepare a Project Design Document for an REDD pilot project in Jayapura district for validation under the Voluntary Carbon Standard (VCS) and the Community, Climate and Biodiversity Standards (CCBS). The project will be based on the principles of customary community forest management rights and operate under the legal framework of a watershed based forest management unit (KPH) and/or ecological restoration concession. The project area covers approximately 400,000 hectares including large areas of conversion forests threatened by conversion to oil palm plantations. The project is predicted to avoid 84 – 180 million tons of CO₂ emissions over a period of 30 years.

Mimika and Mamberamo Pilot Project (New Forests)

The Provincial Government of Papua has signed an MOU with New Forests to develop a REDD Pilot Project comprising of two sites in the lowland tropical rainforest regions of the province covering more than 225,000 hectares in Mimika and Mamberamo districts. The sites have been designated as conversion forests in the provincial government's spatial land use plan. New Forests estimates it will deliver verified emission reductions in the region of 20-25 million metric tons of CO₂e

over the first 10 years of the project via avoided deforestation. New Forests will seek certification under the Voluntary Carbon Standard (VCS) and Climate, Community and Biodiversity Alliance (CCBA) Standards to ensure the creation of high-quality carbon credits with environmental and social benefits. These credits will be sold on the voluntary market with carbon revenue used to endow a charitable foundation based in Papua. Additional revenue will be shared among levels of government and private project investors.

REDD preparedness program in Southwest Papua (WWF Indonesia)

WWF will be assisting the districts of Merauke, Mappi, Boven Digul, and Asmat to prepare district REDD policies (baseline scenarios, institutional frameworks and benefit distribution mechanisms)

D. Other REDD related activities

Strategic Environment Assessment

In 2009 the Papua Provincial Government with support of the World Bank completed an initial strategic environment assessment (SEA) aimed at developing a strategy for sustainable development in Papua. SEA work is continuing with support from USAID as part of the process to prepare a spatial plan for Papua Province.

Spatial Planning and Rationalization of state forests in Papua Province

With support from USAID, the Papua Provincial government is currently (2008-2009) preparing a new spatial plan based on rationalization of forest designation, which considers significantly reducing the area of intact forests currently designated for conversion to agriculture, while also geo-locating village communities.

RESPEK Community Development Program

The strategic program for village development (RESPEK) provides development grants disbursed directly to all villages in Papua Province with the aim of reducing poverty and supporting sustainable livelihoods. This financing distribution mechanism could also be applied to the distribution of REDD carbon trading revenues that reach local with customary or “adat” forest rights.

Establishment of the Agency for Natural Resources Management and the Environment

In February 2009, the Provincial Government of Papua established a new agency for the overall co-ordination of natural resource management and the environment. This agency takes overall responsibility for policies related to natural resource inventory and management and sustainable investment, thereby also ensuring economic benefits for customary forest owners while maintaining environmental protection and overseeing environmental impact mitigation. This agency will coordinate REDD policies and activities in Papua Province.

UNITED STATES

I. CALIFORNIA

A. Western Climate Initiative



California is working closely with six other states and four Canadian provinces in the Western Climate Initiative (WCI) to design a regional greenhouse gas emissions (GHGs) cap-and-trade program to reduce aggregate GHG emissions 15 percent below 2005 levels by 2020. California's own efforts under its Global Warming Solutions Act of 2006 (discussed below) are being designed to enable linkage with other WCI Partner programs. California views its participation in WCI as creating an opportunity to provide substantially greater reductions in GHGs from throughout the region than could be achieved by California alone, to

expand the market for clean technologies, and to help avoid the shifting of emissions from sources within California to sources outside the state.

The WCI Partners released *Design Recommendations for the WCI Regional Cap-and-Trade Program* in 2008, which describes the regional cap-and-trade effort in more detail.¹⁷ Section 9 (Offsets and Allowances from Other Systems) describes the rigorous offsets system that WCI Partner jurisdictions will establish. The WCI Partner jurisdictions will be adopting criteria for offsets to ensure that the offset projects result in reductions that are “real, surplus/additional, verifiable and permanent or that meets a comparably rigorous standard.”¹⁸ Offset projects must also be enforceable by the WCI Partner jurisdiction issuing the credit and verifiable by the accepting jurisdiction.

The WCI will limit the use of offsets and allowances from other systems to no more than 49 percent of the required reduction of emissions in order to ensure that a majority of the emissions reductions required from 2012 to 2020 occur at entities and facilities covered by the cap-and-trade program. In addition, WCI has identified three priority areas for investigation to participate in the offsets program, one of which is Forestry (Afforestation/reforestation, forest management, forest preservation/conservation, forest products).¹⁹ The Design Recommendations provide for the acceptance of international offset credits in the program, an area that will be further developed in the coming months.

It is anticipated that the WCI cap-and-trade program will be fully implemented in 2015.²⁰

B. California's Global Warming Solutions Act (AB 32)

On September 27, 2006, Governor Schwarzenegger signed Assembly Bill 32, the Global Warming Solutions Act of 2006 (“AB 32”), which requires California to reduce its greenhouse gas (GHG) emissions to 1990 levels by 2020 (an approximately 25 percent reduction over current levels). The California Air Resources Board (ARB) is the lead agency for implementing AB 32. Among other preliminary deadlines, AB 32 directed the ARB to develop a Scoping Plan, which it completed late last year and adopted on December 11, 2008.²¹ The Plan includes a range of actions designed to reduce

17 WCI, *Design Recommendations for the WCI Regional Cap-and-Trade Program* (September 24, 2008), available at <http://www.westernclimateinitiative.org/ewebeditpro/items/O104F19866.PDF>.

18 *Id.* at 10.

19 *Id.* at 11.

20 WCI 2009-2010 Workplan, available at <http://www.westernclimateinitiative.org/ewebeditpro/items/O104F21097.pdf>.

21 ARB Scoping Plan, available at http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

California's GHG emissions, including direct regulations, alternative compliance mechanisms, incentives, market-based mechanisms (including a cap-and-trade system), and voluntary actions. The Plan will provide the framework for the rulemaking process to be undertaken in 2009-2010.

In 2009, ARB will develop draft regulations implementing the measures set out in the Scoping Plan and will hold a series of public workshops to solicit input on the draft rules. In 2010, ARB will develop final regulations, and by January 1, 2011, ARB will have completed all major rulemakings for implementing AB 32. By January 1, 2012, GHG rules and market mechanisms adopted by ARB will take effect and be legally enforceable. December 31, 2020 is the deadline for achieving the 2020 GHG emissions cap.

1. California ARB Scoping Plan

AB 32 required ARB's Scoping Plan to include "opportunities for emission reductions measures from all verifiable and enforceable voluntary actions, including, but not limited to, carbon sequestration projects and best management practices."²²

The Scoping Plan reflects this requirement. In its section on Voluntary Reductions and Offsets,²³ it notes that emissions reduction projects that are not otherwise regulated, covered under an emissions cap, or undertaken as a result of government incentive programs can generate "offsets," verifiable reductions whose ownership can be transferred to others. The Plan notes that these voluntary efforts to reduce greenhouse gas emissions can play an important role in helping the State meet its overall greenhouse gas reduction goals and that ARB will adopt methodologies for quantifying voluntary reductions. However, as required by AB 32, the Plan also reiterates that any reduction of greenhouse gas emissions used for compliance purposes must be:

- Real;
- Permanent;
- Quantifiable;
- Verifiable;
- Enforceable; and
- Additional.²⁴

Offsets used to meet regulatory requirements must be quantified according to Board-adopted methodologies, and ARB must adopt a regulation to verify and enforce the reductions. The criteria developed will ensure that the reductions are quantified accurately and are not double-counted within the system. The cap-and-trade rulemaking will establish appropriate rules for the use of offsets.

ARB adopted a methodology for forest projects in 2007 (discussed more fully below) and for urban forestry and manure digesters in 2008, but has been careful to emphasize that the recognition of voluntary reduction or offset methodologies "does not in any way guarantee that these offsets can be used for other compliance purposes." Rather, ARB "would need to adopt regulations to verify and enforce reductions achieved under in the existence of these methodologies does not ensure that offsets generated under them could be used compliance purposes."²⁵

ARB clarifies in its Plan that it will apply the WCI limit on the use of offsets, such that the allowable offsets in each compliance period is less than half of the emissions reductions expected from capped sectors in that compliance period. However, ARB also notes that California is committed to working with WCI Partner jurisdictions and within the

22 See Cal. Health & Safety Code § 38561(f); full text of AB 32 available at <http://www.arb.ca.gov/cc/docs/ab32text.pdf>.

23 Scoping Plan, *supra* at fn 3, at 36-38 (Offsets), 69 (Voluntary Reductions).

24 *Id.* at 36 citing Cal. Health & Safety Code § 38562(d)(1), (2).

25 Scoping Plan, *supra* at fn 3, at 69.

rulemaking process to establish an offsets program without geographic restrictions. To this end:

One concept being evaluated for accepting offsets from the developing world is to limit offsets to those jurisdictions that demonstrate performance ... in reducing emissions or enhancing sequestration through eligible forest carbon activities in accordance with appropriate national or sub-national accounting frameworks. This could be achieved through an agreement to work jointly to develop minimum performance standards or sectoral benchmarks, backed by appropriate monitoring and accounting frameworks. Such agreements would encourage early action in developing countries toward binding commitments, and could also reduce concerns about competitiveness and risks associated with carbon leakage.²⁶

This position is also evident in the Plan's discussion of International Collaboration,²⁷ where it emphasizes the importance of state-provincial partnerships for achieving early climate action in developing countries in advancing the international policy debate. Specifically, it mentions California's interest in working with Brazil and Indonesia to reduce emissions and sequester carbon through eligible forest carbon activities. It also notes that there is considerable momentum behind the effort to include provisions that would recognize REDD activities in a post-2012 international agreement. "California recognizes the importance of establishing mechanisms that will facilitate global partnerships and sustainable financing mechanisms to support eligible forest carbon activities in the developing world."²⁸

2. Forest Protocol

AB 32 directed ARB to adopt methodologies for the quantification of voluntary greenhouse gas emission reductions.²⁹ California has set a strong precedent in the effort to incorporate forest management and conservation into climate policy by adopting the California Climate Action Registry (now the Climate Action Reserve) forest methodology in October 2007. ARB instructed Reserve staff to initiate a stakeholder process to develop additional approaches and reduce barriers for participation by public lands, by private commercial forests, and by private non-timber forests such as oak woodlands. The Reserve formed the Forest Protocol Workgroup, a collection of forest stakeholders representing a range of expertise, to address these issues. It released the final draft of the updated forest project protocol on April 17, 2009³⁰ after over a year of deliberation by the Workgroup. The public comment period on this updated protocol ended May 6, 2009.³¹ The Workgroup will deliver the protocol to the Reserve by May 29, 2009 and subsequently deliver it to both the Reserve's Board and the ARB by September 1, 2009.

The current protocol allows only California projects to be reported and verified. The updated forest protocol will enable forest landowners throughout the United States to submit projects. Additionally, this standardized approach to design, implementation, and registration of forest projects will inform the development of principles and criteria for international forest projects.

²⁶ *Id.* at 38.

²⁷ *Id.* at 114-15.

²⁸ *Id.* at 115.

²⁹ *Id.* at § 38571.

³⁰ Climate Action Reserve, Updated Forest Project Protocol (April 15, 2009), available at http://www.climateactionreserve.org/wp-content/uploads/2009/03/fpp-update_forest-project-protocol.pdf.

³¹ http://www.arb.ca.gov/cc/forestry/forestry_protocols/forestry_protocols.htm.

II. ILLINOIS³²



The State of Illinois is pursuing numerous climate change and conservation programs to reduce greenhouse gas emissions and to store carbon in soil and plants. These habitat restoration and management programs promote forestation, preservation and management practices that help reduce greenhouse gases emissions by employing native ecosystems to remove carbon dioxide from the atmosphere. The state is also pursuing policies to cap greenhouse gas emissions, promote renewable energy and invest in energy efficiency, among other strategies. In addition, as the 6th largest state emitter of carbon dioxide (2005 data) and the

5th largest state by population, Illinois has a significant stake in current federal climate legislation negotiations and will continue to be influential player in this process.³³

Key Illinois Facts

- Population: 13 million (5th most populous state in the U.S.)
- Total Land Area: 37 million acres
- Agricultural Land: 28 million acres (76% total land area) with 76,000 farms
- Commercial Forest Land: 4.26 million acres, 90% privately owned
- Forest Landowners: 114,000

ILLINOIS CO ₂ EMISSIONS FROM FOSSIL FUEL COMBUSTION MILLION METRIC TONS CO ₂ (MMTCO ₂) IN 2005 BY SECTOR		
Agriculture	14.6	6%
Industrial	11.8	5%
Residential	39.1	15%
Transportation	24.7	10%
Electric Power	75.8	29%
Industrial	91.3	35%
	257.4	100%

Source: USEPA/Illinois EPA

TOP 5 ILLINOIS AGRICULTURE EXPORTS (ESTIMATES, FISCAL YEAR 2007)		
	Rank Among States Value	
Million \$	Rank Among States Value	
Million \$		
Corn, feed grains and products	2	\$1.895B
Soybeans and products	2	\$1.495B
Live animals and meat	5	\$405M
Wheat and products	15	\$201M
Overall rank	4	\$4.720B

Source: <http://www.ers.usda.gov/StateFacts/IL.htm>

³² This information is taken from the May 22, 2009 submission of Illinois: *Summary of Climate Change, Conservation & Forest Carbon Programs*.

³³ 2005 State Carbon Dioxide Emissions, Summary, available at <http://www.eia.doe.gov/environment.html>.

A. Illinois Climate Action Plan

In 2006, the Illinois Governor charged the Illinois Climate Change Advisory Group to recommend state-level strategies to meet a statewide greenhouse gas (GHG) reduction goals of 1990 levels by 2020, and 60 percent below 1990 levels by 2050, which were similar to goals set by other states and those proposed in Congress at that time. The advisory group voted on 24 strategies, including a cap and trade program, to reduce greenhouse gas emissions in Illinois that would collectively meet the Governor's goal for reducing greenhouse gas emissions to 1990 levels by 2020. The state is now implementing several of these 24 strategies.

B. Midwestern Regional Greenhouse Gas Reduction Accord

The Midwestern Greenhouse Gas Reduction Accord (Accord) is a regional agreement signed in 2007 by MOU states Wisconsin and Illinois as well as Iowa, Illinois, Kansas, Michigan, Minnesota and the Canadian province of Manitoba to jointly endeavor to reduce greenhouse gases through a cap-and-trade system with reduction targets and timeframes.³⁴ The Accord signatories and a few additional Midwestern states concurrently adopted an Energy Security and Climate Stewardship Platform.³⁵ All signatories to the Accord have joined The Climate Registry for tracking, managing, and crediting for entities that reduce their GHG emissions.³⁶ Additional state and provincial governments are participating as observers. While the Midwestern governors would prefer a federal cap and trade program, they have designed a regional cap-and-trade system should a federal program be delayed.

The Accord Advisory Group of leaders from business, labor, agriculture, energy, environmental advocacy groups, and academia is tasked with developing program design recommendations.³⁷ The Advisory Group currently includes six subgroups on model rule, scope; target setting, data and reporting; modeling; allowances and offsets. In May 2009, the Advisory Group issued its latest version of Preliminary Design Recommendations.³⁸ The Preliminary Recommendations sought modeling analyses of targets that reduce emissions by 15, 20, and 25 percent below 2005 levels by 2020 and recommend a 60-80 percent reduction below 2005 levels by 2050, but the parties have provisionally settled on 20 percent below 2005 levels by 2020 (with 2 percent of each Participating Jurisdiction's allowances allocated each year to an Allowance Reserve Pool) and 80 percent below 2005 levels by 2050.³⁹ The current schedule indicates that the plan and first compliance period will take effect by January 2012.⁴⁰

The Advisory Group's May 2009 recommendation on the geographic location of offsets states that: "[i]n the initial compliance period, the geographic scope should be constrained to the Accord signatory jurisdictions and those states and provinces that have entered into a Memorandum of Understanding (MOU) with the Accord signatory jurisdictions."⁴¹ Recommendation 4.6.1.3 notes that "[p]articipation of international offsets beyond the U.S. and Canada to be determined." Final design recommendations to guide implementation of a regional program will be presented later this summer, following completion and review of additional modeling of macroeconomic and employment impacts. The design recommendations reflect a compromise that seeks to balance a wide range of regional benefits, concerns, and

34 See Accord, available at <http://www.midwesternaccord.org/midwesterngreenhousegasreductionaccord.pdf>.

35 See Platform, available at http://www.midwesterngovernors.org/Publications/MGA_Platform2WebVersion.pdf.

36 <http://www.theclimateregistry.org/>. Note The Climate Registry does not have a protocol specifically for forest and land-based emissions. The Registry's General Reporting Protocol (GRP) for its voluntary reporting program states it is consistent with the California Climate Action Registry's General Reporting Protocol and ISO and IPCC standards.

37 <http://www.midwesternaccord.org/advisory.html>.

38 Preliminary Recommendations of the Advisory Group (May 2009), available at http://www.midwesternaccord.org/Meeting%20material%20pages/GHG-meeting-10_509.html.

39 *Id.* at Section 1.1.1 and 1.1.2.

40 See, e.g., E. Lehmann, Midwest plan musters coal states to cut emissions, ClimateWire (May 19, 2009), available at <http://www.eenews.net/climatewire/print/2009/05/19/2>.

41 Preliminary Recommendation 4.6.1 of the Advisory Group (May 2009), available at http://www.midwesternaccord.org/Meeting%20material%20pages/GHG-meeting-10_509.html.

tradeoffs inherent in the design of an economy-wide cap-and-trade program.

C. Illinois Conservation and Climate Initiative and other Habitat Restoration & Management Programs With Carbon Benefits

The Illinois Conservation and Climate Initiative (ICCI) allows farmers and landowners to earn revenue through the sale of greenhouse gas emissions credits when they use conservation practices such as conservation tillage, continuous native grass plantings, afforestation/reforestation, or manure digestion. To be eligible, the producer or landowner must make a contractual commitment to maintain the eligible practice through 2010. Land enrolled in conservation practices and grass plantings are verified annually. Landowners receive annual payments after completion of the verification process.

This voluntary market-based approach pays landowners for providing a valuable ecosystem service. ICCI provides an additional financial incentive for farmers and landowners to use conservation practices that also benefit the environment by creating wildlife habitat and limiting soil and nutrient run-off to streams and lakes.

Carbon credits generated through ICCI are traded on the Chicago Climate Exchange (CCX), North America's only voluntary, legally binding greenhouse gas emission reduction and trading system. CCX allows the carbon benefits from these conservation practices to be quantified, credited and sold to its members, including large companies, municipalities, and institutions, that have made a commitment to reduce their emissions of carbon dioxide and wish to do so by purchasing "carbon offset credits." The credits are aggregated, or pooled, from farmers and landowners in order to sell them to CCX members that have made voluntary commitments to reduce their greenhouse gas contributions. To date, Illinois landowners and operators have earned over \$1.28 million from the program: \$453,582 for conservation tillage and grassland establishment (154,341 acres enrolled) and \$833,908 for afforestation projects (18,464 acres enrolled)

Illinois also has many other programs with environmental and carbon benefits including but not limited to the: (1) Illinois Habitat Team that provides technical assistance, seed, plants, specialized planting equipment and labor to private landowners to establish and manage wildlife habitat; (2) Illinois Conservation Reserve Enhancement Program (CREP), that has made available \$71 million in state funds to leverage \$352 million in federal support for environmental restoration in the Illinois River Basin; (3) Landowner Incentive Program, a partnership of IDNR, USFWS, and 24 soil and water conservation districts that focuses on environmental restoration and enhancement; (4) Conservation 2000 (C2000) Ecosystems Program that assists in the formation of public/private Ecosystem Partnerships to develop plans and projects on a watershed scale with an ecosystem-based approach; (5) Illinois Forest Stewardship Program that allows a reduced property tax assessment on "unimproved lands" that are forested, grasslands, or wetlands, which have had a long-term conservation plan developed for them; and (6) Conservation Stewardship Program, which encourages landowners through reduced property taxes to protect environmental resources on unimproved Illinois lands.

III. WISCONSIN⁴²

Key Wisconsin Facts



The U.S. State of Wisconsin covers 169,639 square kilometers, about the size of the state of Acre. With a population of 5.6 million, its population density is slightly higher than the American average. The economy is dominated by manufacturing industries and its land use is divided between agriculture and forestry. The energy demands of the state economy are also high, and electricity production accounts for 35 percent of state greenhouse gas emissions. Wisconsin has over 7 million hectares of forest, concentrated in the northern half of the state. 56 percent of the forest area is owned by small private interests and 32

percent is under public ownership.

Wisconsin's action on forest carbon has been to ensure four things: the mitigation of climate change, the sustainability of Wisconsin's forests, the preservation of working forest lands, and the health of the state's economy. These elements have played a role in how the state has approached forest carbon through the Governor's Global Warming Task Force, the Midwest Governor's Association, the Waxman Markey bill, carbon trading on the Chicago Climate Exchange (CCX), and Wisconsin's Forestland Woody Biomass Harvesting Guidelines.

A. Governor's Global Warming Task Force

In July 2008, the report Wisconsin's Strategy to Reduce Global Warming was produced and endorsed by Governor Doyle. Following the Governor's endorsement, drafting of the task force recommendations began and is expected to be introduced in the state legislature this fall as an omnibus bill. The document states a goal of a 75 percent emissions reduction by 2050 and recognizes the need for a cap & trade system in meeting that greenhouse gas reduction objective. Furthermore, the draft bill initiates a state wide land use accounting system to document carbon flux from development and conservation. In terms of forests, this task force encouraged increasing afforestation, reforestation, forest loss prevention, urban forestry and sustainable forest management through incentives, education and outreach. Also, in order to quantify forest change, the state cooperated with Winrock International to create a forest carbon baseline and examine the potential of modified forestry and agriculture practices to increase carbon storage.

The task force did not address international offsets directly in their work, but recognized the value of any offset program that can provide additional, permanent and verifiable terrestrial carbon sequestration. In Wisconsin these offsets provide a critical means of cost containment for businesses and consumers, particularly as a transition strategy until advanced new energy technologies are ready to be deployed on a wider basis.

B. Midwestern Greenhouse Gas Accord

As discussed above, in 2007 Canadian and U.S. members of the Midwest Governors' Association signed onto the Midwestern Greenhouse Gas Accord. In discussions around reducing emissions, international and domestic offsets are an option for reducing twenty percent of an entities compliance obligation. Forest, as well as agricultural, offsets would have an important role to play in this approach, acting as a bridge to mitigate GHG emissions, and contain costs while emissions reduction technologies are tested and a supporting infrastructure is established.

⁴² This information is taken from the May 20, 2009 submission of Wisconsin: Forest Carbon Practices in Wisconsin, Wisconsin Department of Natural Resources.

C. Private Markets

Activity around forest carbon markets in Wisconsin has been weak. Currently one aggregator is actively marketing to forest landowners by encouraging them to engage in trading on the CCX. Additionally the state has provided information to forest landowners on factors to consider when entering into carbon contracts. In agriculture, a single transaction on methane reduction from manure management has been successfully completed on the Exchange.

D. Forest Biomass

Wisconsin's economy is energy intensive. Manufacturing and power generation sectors are looking to respond to legislated renewable energy standards through the use of forest biomass from both short rotation plantations and logging residue. Currently there are two facilities, Northern States Power (NSP) Company's Bay Front and French Island plants. In 2007 they produced 3,437 Billion Btu.

There are also multiple proposals for facilities to produce fuels and power via biomass. Three Northern Wisconsin Power Plants have proposed coal to biomass conversions starting between 2010 and 2013. These projects would produce over 350 megawatts of power.

Two pulp and paper facilities have also proposed conversion or additive biorefinery projects to their operations. One proposal would produce 5.5 gallons of biofuel per year while the second would produce 20 million gallons per year. Startup dates for these projects would be 2012 or later.

In response to this demand for forest biomass the state has developed woody biomass harvesting guidelines to provide balance between biomass removal and forest sustainability across multiple rotations.

E. Forest Research

Wisconsin is an active center for research on climate change, carbon and forests. The Chequamegon-Nicolet National Forest in Northern Wisconsin has been selected as a model forest for mitigation and adaption research by the United States Forest Service. This project will serve as a national model for operational approaches to mitigation and adaption strategies within eastern region and country as a whole. This area will act as a setting for multiple research projects on carbon cycles, mitigation impacts and adaption strategies carried out by nationally recognized scientists, including Richard Birdsey.

Wisconsin is also home to the Wisconsin Initiative on Climate Change Impacts research group. This collaboration between NGOs, federal government, state government and university researchers focuses on subject area modeling and adaption research for natural resources, including forests within the state. This cooperative work effort is a pioneering effort in the great lakes states and will inform longer term policy decisions on the changes to forests expected under a warming climate.

APPENDIX 3: Key Activities of National Entities

I. BRAZIL

A. Summary

The primary source of emissions in Brazil is the forestry sector, with 55 percent of its emissions coming from deforestation alone.⁴³ To date, the federal government of Brazil has disfavored market-based mechanisms for protecting its forests, preferring instead to rely on voluntary contributions and other measures to protect the Amazon. Brazil does not have a uniform climate change law at the federal level, but it does have a number of climate policies and federal forest carbon laws relevant to REDD projects in Brazil.

B. National Policy and Law

1. Policy

In 2004, Brazil released its Action Plan for the Protection and Control of Deforestation in the Legal Amazon (PPCDAM), which was updated in 2008 as the National Plan to Combat Deforestation and Plan to Combat Deforestation at State Level for the Period 2008-2011 (Deforestation Plan).⁴⁴ The Deforestation Plan contains measures to address many of the root causes of deforestation, including the lack of environmental enforcement and effective land title procedures and structures. It also details other implementation activities to address deforestation, including: the valuation of forest to conserve biodiversity; improved forest management, forest plantations and substitution, including the creation of 20 million hectare (ha) of conservation units; incentives for sustainable recovery of deforested areas; territorial zoning; improved monitoring and licensing procedures; and decentralized management and partnerships between federal, state and local governments and the establishment of a legal framework for public forest management.

In December 2008, Brazilian President Lula da Silva launched the National Plan on Climate Change,⁴⁵ which includes a pledge to achieve “Reduction of 40% in the average deforestation rate by 2006-2009 period in relation to the average rate of the ten years reference period used in the Amazon Fund (1996-2005). For each of the next two periods of four years, reach 30% of extra reduction, in relation to the previous period.”⁴⁶

Reductions in deforestation under the Plan will depend on national and international resources, including those raised by the Amazon Fund, established by decree on August 1, 2008.⁴⁷ Norway has committed contributing \$1 billion to the Fund.⁴⁸

The Brazilian Development Bank (BNDES) is responsible for managing the Fund, as well as forming a Amazon Fund Technical Committee and a Amazon Fund Steering Committee. The Amazon Fund Technical Committee is responsible for “certifying CO2 Emissions resulting from deforestation that will be calculated by the Ministry for the Environment.

43 McKinsey & Company, Pathways to a Low Carbon Economy for Brazil (March 2009), at 5, available at http://www.mckinsey.com/client/service/ccsi/pdf/pathways_low_carbon_economy_brazil.pdf.

44 Plan drafted by Permanent Interministerial Working Group to Reduce Deforestation in the Legal Amazon. This is a Federal Government Plan Coordinated by the Office of the Chief of Staff.

45 National Plan on Climate Change (Executive Summary), available at http://www.mma.gov.br/estruturas/imprensa/_arquivos/96_11122008040728.pdf.

46 *Id.* at 14.

47 Decreto Nº 6.527, de 1º de Agosto de 2008, available at http://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2008/Decreto/D6527.htm; President Luiz Inácio Lula da Silva signs decree creating the Fund for the Amazon (August 4, 2008), available at http://www.brasilemb.org/index.php?option=com_content&task=view&id=385&Itemid=125; http://www.mma.gov.br/estruturas/208/_arquivos/amazon_fund_brazil_2008_site.pdf.

48 The Government of Norway’s International Climate and Forest Initiative, available at <http://www.regjeringen.no/en/dep/md/Selected-topics/klima/why-a-climate-and-forest-initiative.html?id=526489>.

It will also evaluate the methodology used to calculate areas that suffered deforestation and amount of CO₂ per hectare used in the calculations of the emissions.⁴⁹ It will consist of six experts appointed by the Ministry for the Environment in consultation with the Brazilian Forum on Climate Change.⁵⁰

In October 2008, BNDES President Luciano Coutinho and Brazilian Environment Minister Carlos Minc formalized the Amazon Fund Steering Committee.⁵¹ The Steering Committee is composed of representative of state governments of the Legal Amazon that have an official plan for forest conservation and combating deforestation, representatives from federal ministries, the Office of the President, and the BNDES, and six civil society members.⁵²

2. Law

There is no national federal climate change law in Brazil. However, Brazil has a patchwork of relevant laws and regulations that may impact a REDD project. At the federal level, the current Brazilian Forestry Code dates back to 1965 and provides for the establishment of permanent reservation areas that are not necessarily covered by native vegetation and the preservation of biodiversity and legal reserves (which are established according to the percentages of rural property areas in which forests shall be preserved for the purpose of sustainable forest management). This percentage varies between 20% and 80% of the rural properties.

Recent legal measures designed to improve incentives to encourage sustainable productive activities include the Law on the Management of Public Forests (Law no. 11.284), which guarantees the allocation of areas to be managed by local communities. This law has also led to the creation of the First Sustainable Forest District to combat illegal deforestation, with another two planned for BR 319 and in the Carajas region.⁵³ However, the law also contains a provision which expressly provides that it is forbidden to include terms in a forest concession that provide for “the grant of rights to ... commercializ[e] credits derived from avoided emissions of carbon in existing forests.”⁵⁴ The federal law reserves for the states the right to put any such credits into the markets [need more info/verification].

In 2008 and 2009, the Brazilian government sought to define property rights in Amazon region. The National Institute for Colonization and Land Reform (Instituto Nacional de Colonização e Reforma Agrária or “Incra”) enacted two rulings in 2008, Instruções Normativas number 45 and 46 of 2008, to establish procedures for landholding regularization. In 2008, the Agrarian Development Ministry (Ministério do Desenvolvimento Agrário - MDA) proposed the Terra Legal Program (Legal Land Program), through which it intends to promote landholding regularization for holdings of up to 1,500 hectares in the Amazon in three years.⁵⁵ [need more info/verification].

C. Local REDD Initiatives

In addition to the local projects described in the Brazilian state sections above, other REDD-related efforts are underway in Brazil. For example, Brazilian NGOs, farmers and indigenous tribes agreed the Cuiabá Declaration at the 14th Katoomba Group Meeting in Mato Grosso. Among many objectives, the declaration seeks to have the national government recognize, guarantee the rights of, and compensate indigenous peoples, local communities and others engaged in conservation and restoration efforts, complement the national funding approach to REDD with other market-based mechanisms, and recognize innovative initiatives at the local and sub-national levels that contribute to the fulfillment of

49 President Luiz Inácio Lula da Silva signs decree creating the Fund for the Amazon (August 4, 2008), available at http://www.brasilemb.org/index.php?option=com_content&task=view&id=385&Itemid=125.

50 *Id.*

51 Amazon Fund Steering Committee is installed at BNDES headquarters, BNDES News (October 24, 2008), available at http://www.bndes.gov.br/english/news/not191_08.asp.

52 http://www.mma.gov.br/estruturas/208/_arquivos/amazon_fund_brazil_2008_site.pdf.

53 Available at: http://www.ideflor.pa.gov.br/files/u1/Lei_Federal.pdf.

54 See Law on the Management of Public Forests (Law no. 11.284), Art. 16, par 1.

55 This program was incorporated in Provisional Measure 458/2009 of February 2009.

the national and state targets.⁵⁶

Finally, Brazil has one of the largest land rights movements in the world.⁵⁷ Forest movements in Brazil continue to seek recognition for their forest protection and sustainable use practices.⁵⁸ These groups also see REDD funds as a vital sources of funding for payment for environmental services schemes.⁵⁹ This is a crucial issue in terms of poverty reduction, food sovereignty and addressing deforestation.

56 Cuiabá Declaration, available at <http://www.icv.org.br/w/library/lettercuiaba.pdf>.

57 For further information, see <http://www.mst.org.br/mst/home.php>.

58 *Manaus Declaration*, Forest Peoples Alliance, April 2008.

59 A. Hall, "Better REDD than Dead: Paying the People for Environmental Services in Amazonia", *PHILOSOPHICAL TRANSACTION OF THE ROYAL SOCIETY* 363:1925-1932, 2008.

II. INDONESIA

A. Summary

Indonesia has one of the highest rates of deforestation in Southeast Asia. Since 1950, over 40% of its standing tropical rainforest has been felled to make way for agriculture, population growth, grazing land and, more recently, a seemingly clean source of fuel and cooking oil...Palm Oil (GFW, 2008). Deforestation accounts for about 84% of Indonesia's carbon emissions.⁶⁰

With the conversion of its once extensive forest comes short term prosperity in the name of permanent loss of long term wealth. Forest ecosystem services such as water retention, local climate control, pest control and pollination services for subsistence agriculture, fire risk prevention and water runoff attenuation are being substituted for hard capital in order to fuel current development priorities such as public health, infrastructural developments, post tsunami reconstruction and repayments of burgeoning foreign debt.

What goes unnoticed however is the gradual depletion and deterioration of these ecosystem services. Services, without which, the cost of replacement and derived damages possibly surpass the immediate benefits yielded by increased primary production and raw timber sales. The decline of several crucial ecological functions of the rainforest may have serious consequences for numerous economic activities in and around the deforested areas.

B. National REDD Policy and Law

1. Final National REDD Rules

Indonesia's national REDD efforts are spearheaded by its Ministry of Forestry. The government has also created an Indonesia Forest Climate Alliance (IFCA), a "study group consisting of Ministry experts as well as researchers from a range of national and international institutions" that has issued at least one recent report on REDD methodologies and strategies for Indonesia.⁶¹

The Minister of Forestry issued a final national REDD regulation, Regulation P.30/Menhut-II/2009 on Procedures for Reducing Emissions from Deforestation and Forest Degradation ("REDD Regulation") on May 1, 2009.⁶² The REDD Regulation is the first national legal regime for the implementation of REDD projects and the issuance of carbon credits for the GHG reductions these projects generate, which can be traded. In early July 2009, Indonesia's Ministry of Forestry released what are believed to be the world's first set of revenue-sharing rules governing forest carbon projects, P.36/Menhut-II/2009 Regarding Procedures for Licensing of Commercial Utilisation of Carbon Sequestration and/or Storage in Production and Protected Forests (dated May 22, 2009).⁶³ Attachment III to the regulation provides a revenue-sharing chart, where the distribution occurs to three categories: (1) government; (2) community; and (3) developer. The government share ranges from 10-50%, community share 20-70%, and developer share 20-60% depending on the permit holder/developer type. The government's share is divide between the central government (40%), the provincial

60 The World Bank Indonesia REDD Team, *Developing a Market for REDD in Indonesia, Report on Implementation of a Learning Workshop* (January 2009), at 3 (noting that deforestation in the country is currently estimated to occur at a rate of 1 million ha / year).

61 See IFCA, *REDDI, REDD Methodology and Strategies Summary for Policymakers* (date unspecified, sometime in 2007), at 5, available at <http://redd.pbwiki.com/>; see also http://unfccc.int/files/methods_and_science/lulucf/application/pdf/080625_indonesia.pdf. The IFCA maintains a website containing various case studies, REDD news, REDD policy documents (mostly in Indonesian), and other restricted-access documents. <http://redd.pbwiki.com/>.

62 The official version of the regulation is available at http://www.dephut.go.id/files/P30_09_r.pdf; an unofficial English translation can be viewed at www.climatechange.ca.gov/forestry_task_force/documents/belem/INDONESIA_Permenhut_30_09_REDD_Regulation_unofficial_translation_English.pdf.

63 P.36/Menhut-II/2009, available at http://www.dephut.go.id/files/P36_09.pdf; unofficial English translation available www.climatechange.ca.gov/forestry_task_force/documents/belem/INDONESIA_Permenhut_36_09_Voluntary_Carbon_unofficial_translation_English.pdf; see also S. Creagh, Indonesia issues first forest-carbon revenue rules, Reuters (July 10, 2009), available at http://www.reuters.com/article/homepageCrisis/idUSJAK485584.CH_2400.

government (20%), and the district government (20%).

The key features of the REDD Regulation (Regulation P.30/Menhut-II/2009 on Procedures for Reducing Emissions from Deforestation and Forest Degradation) and its implications for prospective participants in Indonesian REDD projects include:

- (1) the designation of land areas eligible for REDD projects (largely defined by reference to the various concessions that may be held by private parties);
- (2) the required REDD project proponents (both national and foreign entities);
- (3) the approval and implementation requirements (which vary according to type of land area, but in all cases include a REDD implementation plan that must be approved by the Minister of Forestry); and
- (4) the rights and responsibilities of REDD project proponents (including payment for and use of REDD credits, both now and in any post-2012 international carbon trading regime).⁶⁴

Appendices 1-6 to Regulation P.30/Menhut-II/2009 on Procedures for Reducing Emissions from Deforestation and Forest Degradation establish Guidelines for: (1) Provision of Local Government's Recommendation for REDD Implementation; (2) Criteria for REDD Location and Activities; (3) the Formulation of REDD Implementation Plans; (4) the REDD Proposal Assessment; (5) Setting the Reference Emission, Monitoring and Reporting of REDD Activities; and (6) Verification of REDD Activities.⁶⁵

2. Other REDD-related Policy

In addition to issuing the REDD decree and regulation, the Government of Indonesia has taken other relevant actions in the forestry sector, including completing the Indonesian Forest Climate Alliance (IFCA) study, developing a Forest Resource Information System in support of the development of Indonesian National Carbon Accounting System, establishing a National Climate Change Council, National Forestry Council, and provincial- / *kabupaten*-level "working groups" on REDD (i.e., *Kabupaten* Berau, East Kalimantan; South Sumatera; Central Kalimantan; Papua).⁶⁶

Furthermore, the government of Indonesia has recently entered into a bilateral REDD agreement with Australia, the Indonesia - Australia Forest Carbon Partnership. The Partnership will build upon, and provide clearer goals for, existing cooperation between Indonesia and Australia in three key areas: (1) policy development and capacity building to support participation in international negotiations and future carbon markets; (2) technical support for Indonesia to develop its national forest carbon accounting and monitoring system; and (3) the further development of demonstration activities, and the provision of related enabling assistance, to trial approaches to reducing emissions from deforestation and forest degradation.⁶⁷ In addition, the countries agreed to develop a *Roadmap for Access to International Carbon Markets*.⁶⁸ Also in 2008, Indonesia and Australia jointly submitted *Reducing emissions from deforestation and forest degradation in developing countries* to the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-

64 Baker & McKenzie, Indonesia's REDD Regulations, available at <http://bakerxchange.com/ve/ZZ8180r757260609199P803>.

65 The official version of the regulation is available at http://www.dephut.go.id/files/P30_09_r.pdf; an unofficial English translation can be viewed at www.climatechange.ca.gov/forestry_task_force/documents/belem/INDONESIA_Permenhut_30_09_REDD_Regulation_unofficial_translation_English.pdf. See also Baker & McKenzie, Indonesia's REDD Regulations, available at <http://bakerxchange.com/ve/ZZ8180r757260609199P803>; see also D. Fogerty, Indonesia delays forest-carbon rules, REUTERS (January 19, 2009), available at <http://www.reuters.com/article/environmentNews/idUSTRE5011WJ20090119?feedType=RSS&feedName=environmentNews>; Government delays awarding permits for REDD projects, Jakarta Post, 2009 WLN 2423356 (February 7, 2009).

66 The World Bank Indonesia REDD Team, *Developing a Market for REDD in Indonesia, Report on Implementation of a Learning Workshop* (January 2009), at 8.

67 See <http://www.climatechange.gov.au/international/publications/pubs/indonesia-australia.pdf>.

68 Prime Minister of Australia, Media Release (June 13, 2008), available at http://www.prm.gov.au/media/release/2008/media_release_0315.cfm.

LCA), Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP), and the Subsidiary Body for Scientific and Technological Advice (SBSTA).⁶⁹

Indonesia has also applied to join the World Bank's Forest Carbon Partnership Facility.⁷⁰

C. Voluntary and Local REDD Initiatives

Indonesia already has more than 20 REDD projects in development. A recent World Bank document summarized these projects in Annex 3 of its report, provided in full below.

69 http://www.climatechange.gov.au/international/publications/pubs/a_redd.pdf; see also <http://www.cifor.cgiar.org/NR/rdonlyres/4E81DB28-410F-4885-ACB6-6CA802603A32/0/indonesia.pdf> (additional SBSTA submission by Indonesia on REDD); http://unfccc.int/files/kyoto_protocol/application/pdf/indonesiaaseanredd060608.pdf (Common Position Paper On Reducing Emission from Deforestation and Forest Degradation (REDD) in Developing Countries on behalf of Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam (ASEAN)).

70 See <http://www.reuters.com/article/latestCrisis/idUSSP394051>.

Updated matrix of Indonesia REDD demonstration projects⁷¹

PROJECT NAME	LOCATION	TOTAL AREA	CO2 SAVINGS/ YEAR	KEY PROPOSERS	CURRENT STATUS
1. Reducing Carbon Emissions from Deforestation in the Ulu Masen Ecosystem – A Triple-Benefit Project	Ulu Masen Ecosystem, Aceh	750,000 ha (7,500 km ²)	3,300,000 tons	Carbon Conservation; Fauna and Flora International (FFI)	CCBA audit approved 6 Feb '08; MoU signed between Carbon Conservation and the Government of Aceh; Term sheet signed between Carbon Conservation and Merrill Lynch; Sales and marketing agreement signed with Carbon Conservation and the Government of Aceh; verification process on-going
2. REDD and HTI – Partnerships for Avoided Emissions Supporting Sustainable Development (Kampar Ring – A Sustainable Development Model Based on Responsible Peatland Management)	Riau, Sumatera	400,000 ha (4,000 km ²)	16,000,000 tons	APRIL (Asia Pacific Resources International Holdings Ltd.)	A collaborative effort to undertake sustainable palm oil development while simultaneously generating emissions reductions on peatland and implementing CSR programs
Project Name	Location	Total Area	CO2 savings/ year	Key Proponents	Current Status
3. Kuala Kampar Pilot Project – REDD	Riau, Sumatera	700,000 ha (7,000 km ²)	Unknown	World Wide Fund for Nature	Undertake feasibility study; Prepare PIN and PDD; Identify investors
4. Tesso Nilo Pilot Project – REDD	Sumatera	50,000 ha (500 km ²)	Unknown	World Wide Fund for Nature	Undertake feasibility study; Prepare PIN and PDD; Identify investors
5. Harapan Rainforest Project	Kabupaten Muara Jambi, Sumatera	101,000 ha (1,010 km ²)	Unknown	Burung Indonesia; The Royal Society for the Protection of Birds; Birdlife International	
6. Berbak Carbon Value Initiative	Jambi, Sumatera	250,000 ha (2,500 km ²)	700,000 tons	ERM; The Zoological Society of London; Berbak National Park	Project Information Note (PIN) prepared

⁷¹ The World Bank Indonesia REDD Team, *Developing a Market for REDD in Indonesia, Report on Implementation of a Learning Workshop* (January 2009), at Annex 3, 20-22.

7. Conservation of the Upper Kapuas Lakes System	Kabupaten Kapuas Hulu, West Kalimantan	500,000 ha (5,000 km ²)	7,430,000 tons	FFI; PT Macquarie Capital Securities Indonesia	This is one of six REDD pilots to be implemented through the FFI / Macquaries partnership; Carbon Forests Task Force has been formed; Forest carbon measurement (Jan-Jun '09); Stakeholder mapping / public consultation (Dec '08-Jun '09); Project verification (Sep '09)
8. Not known	Central Kalimantan	50,000 ha (500 km ²)	Unknown	Infinite Earth	Unknown
9. Kalimantan Forests and Carbon Partnership (KFCP)					
	Central Kalimantan	340,000 ha (3,400 km ²)	23,333,000 tons	Australian Government	Framework design nearly finalised; next step is full demonstration activity design and implementation between July – December 2008
Project Name	Location	Total Area	CO ₂ savings/ year	Key Proponents	Current Status
10. Katingan Conservation Area: A Global Peatland Capstone Project	Kabupaten Katingan and Kabupaten Kotawaringan, Central Kalimantan	Unknown	Unknown	Starling Resources	Unknown
11. Mawas Peatland Conservation Area Project					
	Central Kalimantan	364,000 ha (3,640 km ²)	1,442,288 tons	The Borneo Orangutan Survival Foundation; The Dutch Royal Government; Shell Canada	
	Completion of PDD (Project Document Design); validated by Winrock Int'l				

12. Central Kalimantan Peatland Project – REDD	Sebangau National Park, Central Kalimantan	50,000 ha (500 km ²)	Unknown	World Wide Fund for Nature; Deutsche Post; BOS Mawas Program; Wetlands Int'l Indonesia Program; Care Int'l Indonesia; Palangka Raya University	Undertake feasibility study; Prepare PIN and PDD; Identify investors
13. Malinau Avoided Deforestation Project	Kabupaten Malinau, East Kalimantan	325,000 ha (3,250 km ²)	Unknown; project life – 25 years	Global Eco Rescue; Borneo Tropical Rainforest Foundation; Inhutani	Initial stakeholder meetings held; design of community development initiatives;
Project Name	Location	Total Area	CO ₂ savings/year	Key Proponents	Current Status
14. Berau, Indonesia Climate Action Project (Kabupaten Berau Forest Carbon Program)	Kabupaten Berau, East Kalimantan	971,245 ha (9,712 km ²)	5,000,000 tons	The Nature Conservancy; World Agroforestry Center (ICRAF); Sekala; University Mulawarman; Winrock Int'l; University of Queensland	Scoping phase completed; Detailed program design (Jun '09); Funding secured (Dec '09)
15. Heart of Borneo Pilot Project – REDD	Kalimantan	22,000,000 ha (220,000 km ²)	Unknown	World Wide Fund for Nature	Unknown
16. Forest Land Use and Climate Change in North Sulawesi (FLUCC) in the Poigar Forest	Kabupaten Bolaang and Kabupaten Minahasa Selatan, North Sulawesi	34,989 ha (350 km ²)	170,000 tons	Green Synergies	Working group formed; Case Studies Workshop (Sep '09)
17. Mamuju Habitat	Mamuju, West Sulawesi	30,000 ha (300 km ²)	250,000 tons	KeeptheHabitat; Inhutani I	Suspending legal forest harvesting; Protecting the area from illegal logging, clearing and burning
Project Name	Location	Total Area	CO ₂ savings/year	Key Proponents	Current Status

18. Papua Carbon Project	Kabupaten Mimika, Kabupaten Memberamo	265,000 ha (2,650 km ²)	1,000,000 – 2,000,000 tons	New Forests Asset Management; PT Emerald Planet	MoU signed with the Government of Papua to survey the identified sites and subsequently undertake a detailed feasibility study, marketing plan and business plan to support the creation of a commercially operated Carbon Project for validation under the Voluntary Carbon Standard. Legal review being undertaken to determine licensing process and structures.
19. Jayapura Pilot Project – REDD	Papua	217,634 ha (2,176 km ²)	Unknown	World Wide Fund for Nature	Undertake feasibility study; Develop baseline; Prepare PIN and PDD; Identify investors
20. Merauke-Mappi-Asmat Pilot Project – REDD	Papua	Unknown	Unknown	World Wide Fund for Nature	Undertake feasibility study; Prepare PIN and PDD; Identify investors

III. UNITED STATES

Since 2007, several leading legislative proposals for a federal cap-and-trade system have included provisions recognizing REDD and other international forest carbon activities. Most recently, the American Clean Energy & Security Act of 2009 (H.R. 2454), introduced by Congressmen Henry Waxman (D-Cal.) and Edward Markey (D-Mass.) and passed by the full House Energy & Commerce Committee on May 19, 2009, contains extensive provisions for reduced emissions from deforestation.⁷²

Specifically, the proposed legislation allocates 5% of annual U.S. emissions allowances from the start of the program through 2025 for REDD capacity building and improved forest governance in developing countries and to achieve “supplemental emissions reductions from reduced deforestation” of 720 million tons in 2020 (equivalent to 10% of U.S. emissions in 2005) and cumulative reductions of 6 billion tons by 2025.⁷³ This supplemental reduction concept is novel and appears to be driven in part by a desire to gain credibility in the international negotiations on the theory that even if the U.S. cannot agree to the 2020 targets being advanced by the EU (20% below 1990 levels by 2020), it will use some of its allowances to purchase supplemental reductions in the forest sector that would move the U.S. somewhat closer to the EU targets. Of course, even if such provisions survive to enactment, it remains to be seen whether and how tropical countries would participate in such a program given the various requirements attending such participation.

The proposed legislation also provides for international offset credits for reduced deforestation (as part of a substantial pool of international offsets) from three types of activities: (1) national-level activities in countries that have adopted national deforestation baselines that are based on annual historical rates of deforestation and that establish a trajectory resulting in zero net deforestation within 20 years; (2) state- or province-level activities in developing countries that are responsible for more than one percent of global GHG emissions; and (3) project- or program-level activities in countries responsible for less than one percent of global GHG emissions.⁷⁴ The latter two categories of eligible activities are subject to a phase out after 5 years from the date that the U.S. compliance system begins, with the possibility for an additional eight year extension for project- or program-level activities in least developed countries.⁷⁵ Thus, although these provisions do allow for sub-national REDD activities, the phase outs and other substantive requirements illustrate the strong preference in the U.S. for national-level REDD activities.

Finally, the proposed legislation also provides for a “strategic reserve” of allowances as part of a general cost-control mechanism that would be re-filled with international offset credits from reduced deforestation.⁷⁶

In contrast to previous U.S. legislative proposals, the H.R. 2454 requires developing countries that wish to participate in either the set-aside or the offsets program be party to a bilateral or multilateral agreement with the United States governing the relevant activities.⁷⁷ Other details regarding eligibility and quality criteria for international offset credits are delegated to future rulemakings.⁷⁸ The proposed legislation, however, does mandate that the Administrator “seek to ensure the

72 See American Clean Energy & Security Act of 2009 (ACES) (H.R. 2454).

73 *Id.* The side-aside percentage declines to 3% for the years 2026 through 2030 and 2% for the years 2031 through 2050. The discussion draft provides further that if the Administrator of EPA is unable to achieve the required supplemental reductions, it must take additional allowances from the cap in order to do so.

74 *Id.* The total amount of offsets (international and domestic) available under the program is determined by a formula: 2 billion divided by the sum of 2 billion plus the cap for any particular year to get the portion of offsets that a regulated entity can use to satisfy its compliance obligations (half of which can come from domestic offsets and half of which can come from international offsets). Thus, in the initial years when the cap is approximately 5 billion tons, each regulated entity can satisfy roughly 28% (2/7) of its compliance obligations with offsets, half of which can come from international offsets.

75

76 *Id.* The strategic reserve provides for quarterly auctions of allowances at a minimum strategic reserve price. Revenues from these auctions can then be used to purchase international offset credits from reduced deforestation, which are then retired in lieu of new strategic reserve allowances after taking a 20% discount. w

77 *Id.*

78 *Id.*

establishment and enforcement by [participating countries] of legal regimes, standards, and safeguards” that give due regard to the rights and interests of local communities and indigenous peoples, promotes consultation and participation by such stakeholders in reduced deforestation activities, and encourages profit sharing with such groups.⁷⁹ Although there are a number of serious questions regarding how the EPA would carry out such responsibilities and whether EPA is the appropriate entity for doing so, the fact that such provisions are included in the draft legislation reflects the growing importance of this issue and the increased ability of those representing these groups to leverage climate policy (at multiple levels) as a way of enhancing the overall accountability and transparency of the emerging REDD regime.

At this point, it is impossible to determine whether the H.R. 2454 provisions will survive to enactment. That said, it is important to recognize the considerable progress that their bill represents regarding REDD and international forest carbon. In the previous Congress, the two climate bills introduced by Congressmen Waxman and Markey respectively contained no significant provisions on REDD or international forest carbon, reflecting a lack of attention to the issue and a general skepticism of forest carbon.

That said, a number of other legislative proposals introduced in the previous Congress did include significant provisions on REDD and international forest carbon. In the Senate, for example, America’s Climate Security Act of 2007 (S. 2191), introduced by Senators Lieberman and Warner, provided an explicit set-aside of emissions allowances for international forest carbon activities in developing countries.⁸⁰ More importantly, the substitute amendment (S. 3036) offered by Senator Boxer, the Chairman of the Senate Environment and Public Works Committee, and debated on the Senate floor in June 2008, contained expansive provisions for international forest carbon, including a set-aside provision like that proposed in the Lieberman-Warner bill and a provision that provided a pool of offset allowances (up to an amount equal to 10% of the total amount of allowances allocated under the cap) for international forest carbon activities undertaken in countries that have adopted national accounting frameworks.^{81,82} The major differences between these legislative proposals and the current Waxman-Markey legislation include the scope of eligible activities, with Waxman-Markey covering only reduced deforestation and the Boxer-Lieberman-Warner bill covering the full-range of international forest carbon activities (REDD, afforestation, reforestation, and improved forest management); the allowance for subnational activities (for a limited time) under Waxman-Markey; the *ex ante* requirement of an agreement or arrangement with the national government before any REDD activities (at whatever level) can be eligible to generate international offsets; and the size and mandated use of the allowance set aside under Waxman-Markey for significant supplemental reductions.

In many ways, the momentum behind REDD and international forest carbon in the U.S. reflects the emergence of a broad-based consensus among leading environmental NGOs and prominent U.S. companies that this should be included in U.S. climate policy. This emerging consensus is manifest most prominently in the work of a number of different climate-related coalitions of NGOs and the business community, including the Forest Carbon Dialogue; Avoided Deforestation Partners; and the U.S. Climate Action Partnership,⁸³ which has endorsed the “development of measures and incentives, through both U.S. legislation and within a multilateral framework, that aim to reduce emissions from deforestation and land-use change”⁸⁴ and the role of international forest carbon as important components of cost-control efforts in a federal

79 *Id.*

80 See *America’s Climate Security Act of 2007* (S. 2191) Title III, Subtitle H – International Forest Protection, §§ 3801 – 3806. As amended in subcommittee, the provision sets aside 2.5% of the total allowances available under the cap for eligible international forest protection activities.

81 The total amount of the set aside was reduced from 2.5% of allowances to 1%.

82 S. 3036. Although no amendments were debated during the Senate floor discussion of the bill, several important amendments were filed that contained extensive provisions for international forest carbon, including most prominently a cost-control amendment sponsored by Senator Stabenow (D-MI) that had a bipartisan group of co-sponsors and significant support from a number of regulated entities and prominent trade associations representing the U.S. agricultural community.

83 See U.S. Climate Action Partnership, *A Blueprint for Legislative Action*, (2009) available at: http://www.us-cap.org/pdf/USCAP_Blueprint.pdf. The Blueprint presents recommendations for federal climate legislation from thirty major corporations and environmental NGOs

84 Blueprint at 5.

cap-and-trade system.⁸⁵

Of course, there are still a number of unresolved issues regarding how REDD and/or international forest carbon should fit within U.S. climate legislation. Specifically, questions remain regarding the proper scope of eligible activities (i.e., REDD only or the full suite of international forest carbon activities). There are also significant questions regarding the inclusion of sub-national level activities and projects (in addition to national-level activities) in international forest offset provisions. At a more general level, there is ongoing debate regarding quantitative limits attending the use of offsets, with opponents of offsets raising concerns about market flooding and the potential dilution of incentives to make reductions in core domestic sectors such as electric power, and supporters pointing out that expansive provisions are needed to send a sufficiently strong signal to the market in order to promote investment in such activities.

As in the international discussions, there are also lingering questions in the U.S. context regarding measurement, monitoring, and verification capabilities for REDD and/or international forest carbon as well as questions whether sufficiently rigorous quality criteria can be established to ensure the environmental integrity of any offset allowances from such activities and that local communities share in the benefits. Questions have also been raised about potential competition with domestic offset providers. Finally, objections have been raised that these sorts of provisions will operate as wealth transfers to developing countries (“shipping U.S. dollars abroad”), including countries with poor performance in forest governance and an overall lack of transparency.

In sum, the effort to bring REDD and international forest carbon into U.S. climate legislation is an ongoing process, but one that appears to be proceeding on a track that is independent of (though largely consistent with) the international negotiations. Although there are still a number of unresolved issues on the implementation side, there is growing recognition within the U.S. climate policy community that the U.S. has an important opportunity in designing its own GHG compliance regime to lead on this issue by creating provisions that will recognize and support REDD and international forest carbon activities in a manner that ensures environmental integrity and facilitates similar efforts in other fora.

85 *Id.* at 9-10.

APPENDIX 4

Working Group 1 (Project-level Standards and Criteria) Scope of Work

Revised by John Nickerson
Dogwood Springs Forestry
July 9, 2009

Introduction

This work plan provides the structural approach to developing project-level forest offset criteria and standards, compare current forest protocols and projects to the criteria and standards, and provide a report that documents the findings of the protocol assessment. The tasks identified in this work plan are part of the framework of the Joint Action Plan that has been developed to implement the forest sector provisions of the November 2008 Memoranda of Understanding (MOU) executed between nine states and provinces in the United States, Indonesia, and Brazil to address climate change. The work plan consists of tasks to be accomplished by a Criteria and Standards Working Group and tasks that will be accomplished by John Nickerson, a consultant to the MOU effort.

Identifying the Tasks

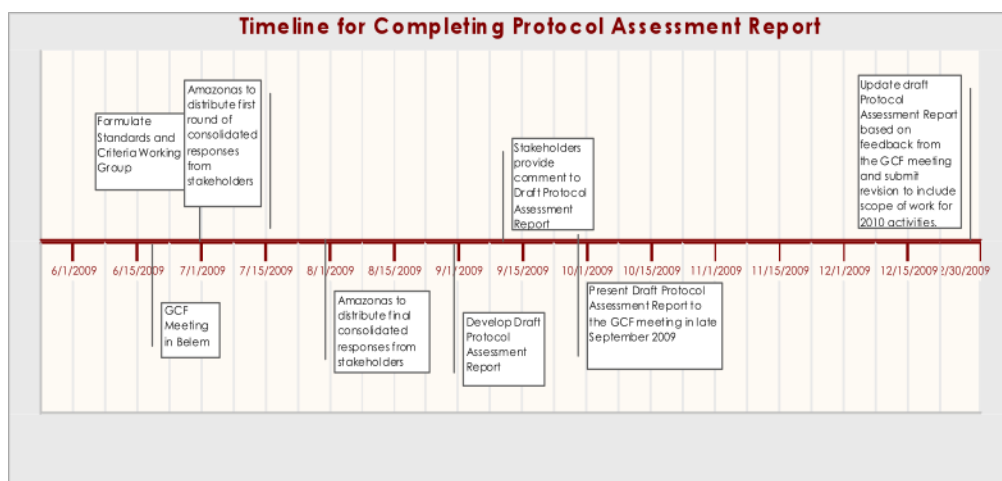
Several key tasks have been identified that will assist in the development of the Protocol Assessment Report. The key tasks envisioned in completing the protocol assessment report include:

Consultant and Working Group Tasks

1. Assemble a Criteria and Standards Working Group.
2. Working Group to identify and define critical standards and criteria required for project-level accounting. A preliminary list of criteria and standards is displayed in Appendix A.

Consultant Tasks

3. Produce a comparison of existing protocols to standards and criteria developed by working group.
4. Develop Draft Protocol Assessment Report
5. Present Draft Protocol Assessment Report to the GCF meeting in late September 2009
6. Update draft Protocol Assessment Report based on feedback from the GCF meeting and submit revision to include scope of work for 2010 activities.



Steps 1 and 2. Criteria and Standards Working Group

The task of the Criteria and Standards Working Group is to develop a set of criteria and standards that are deemed necessary components of compliance grade project-level offsets.

The criteria and standards developed by the working group will be used to assess existing project-level protocols and methodologies.

It would be an ideal outcome if the working group achieved consensus on the criteria and standards to be used in the assessment. The final product of the criteria and standards will identify disparities among stakeholders if consensus is not achieved.

The State of Amazonas is leading this working group effort. Ernesto Roessing is the leading the effort for Amazonas. The working group will consist of stakeholders from all of the MOU states and provinces. Each country will have a country facilitator responsible for communications and work product management within the country. The country facilitators are:

- Ernesto Roessing/Brazil
- Leroy Hollenbeck/Indonesia
- John Nickerson/USA

Each facilitator will be responsible for communications within their respective country, to consolidate country work products, and to report back to Ernesto in Amazonas.

STAKEHOLDERS	AMAZONAS
July 9: Country facilitators to receive initial comments from stakeholders.	
July 10: Country facilitators to consolidate and send initial comments on draft criteria and standards to Amazonas (Ernesto).	July 17: Amazonas to distribute consolidated criteria and standards to stakeholders.
July 21: Communications within each country to discuss initial consolidated report received from Amazonas.	
July 23: Country facilitators to receive secondary comments from stakeholders.	
July 24: Country facilitators to consolidate and send secondary comments on draft criteria and standards to Amazonas (Ernesto).	
	July 31: Amazonas to distribute final consolidated criteria and standards to stakeholders, identifying disparities as needed.

Steps 3, 4, and 5. Developing a Draft Protocol Assessment Report

Existing protocols and methodologies will be compared to the consolidated criteria and standards from Steps 1 and 2. John Nickerson will complete the draft and distribute to the stakeholders for comments. The protocols and methodologies considered for comparison to the criteria and standards include:

- The Voluntary Carbon Standard (VCS)
- Climate, Community, and Biodiversity Alliance (CCBA)
- Clean Development Mechanism (CDM)
- Climate Action Reserve (CAR)
- Chicago Climate Exchange (CCX)

STAKEHOLDERS	JOHN NICKERSON
	August 28: Draft protocol assessment report to be distributed to stakeholders.
September 11: Comments on draft protocol assessment report to be sent to John Nickerson.	
	September 25: Final protocol assessment report delivered to Governor's Climate and Forest's Task Force

Step 6. Update Protocol Assessment Report Based on Feedback from Governor's Climate and Forests Task Force

The protocol assessment report will be revised based on feedback from the GCF meeting in late September. A final document which will include identified gaps and recommendations will be prepared by John Nickerson by December, 2009.

The matrix below identifies many important project-level criteria. Providing detail to the desired qualities of the standards must consider the relative complexity of administering and verifying the standard and how the standard will be linked to regional and national accounting approaches.

Ref	Criteria	Description	Desired Qualities of Standards
1.	Project Description	Description of project's physical, legal, and biological attributes, historical context, and current land use.	Well-defined project attributes. Jurisdictional boundaries clearly defined.
2.	Eligibility	The rules that determine if a set of planned activities on a specific site to remove, reduce, or prevent GHG emissions should be eligible for generating carbon credits.	Rules designed to include broad landowner participation. Fungible across a wide range of carbon registries and markets. Excluded entities or activities clearly defined.
a.	Entity	Discrete legal unit or individual who owns trees, or the land and trees within the entity's boundary	Identification of specific entity or group of entities with demonstrated legal ownership or long-term management rights over project area.
b.	Project Term	The start date and duration of project activities and associated monitoring, verification and crediting periods.	The start date to be defined as when carbon project activities begin. Limits defined to retroactive start dates where carbon project activities started in the past and baseline data can be established. The standard should define minimum and maximum timeframes in terms of project lifetime and crediting period.
3.	Additionality	GHG reductions that are above and beyond what would have occurred under "Business as Usual".	Should clearly identify link to clearly baseline (business as usual) assessment, which is developed under clearly defined standards and methodologies (and is verifiable).

a.	Carbon Stocks Baseline Determination	An assessment of the changes in carbon stocks that would occur in the absence of a project.	<p>Baseline approaches must be reconciled across projects within sub-regions and across sub-regions in terms of linking to regional and national targets.</p> <p>REDD Projects</p> <p>The probability of forestland conversion or degradation should be substantiated and include a clear description of the specific deforestation and/or degradation drivers.</p> <p>Removal of carbon and rate of conversion estimates take into consideration similar practices on similar landscapes relevant to the project.</p> <p>IFM Projects</p> <p>Business as usual management practices defined in terms of silvicultural practices, rotation ages, and restoration activities.</p> <p>Reforestation/Afforestation Projects</p> <p>Business as usual addresses probability of reforestation activities in absence of project and describes how carbon stocks existing prior to reforestation activities are quantified.</p> <p>All Projects</p> <p>Requires a forecast or simulation model of forest stock changes representing what would happen in the absence of the project, beginning with inventoried stocks at the time of project initiation.</p> <p>Guidance for use of modeling and forecasting provided in a published protocol reviewed and endorsed by local/regional experts</p> <p>Baselines should be established conservatively.</p>
b.	Legal and Regulatory Considerations	The legal, regulatory, and policy factors that influence carbon stocks in the baseline determination.	<p>Baseline scenario must include demonstration that it exceeds all legal requirements (applicable laws, regulations, and any legally-binding commitments).</p> <p>Documents should include evaluation of public policy and relevant trends.</p>
c.	Economic Considerations	The financial, budgetary, and economic factors that influence carbon stocks in the baseline determination.	For planned deforestation and/or degradation activities, the baseline scenario must include a substantiation that it is economically feasible (based on assessment of similar ongoing activities in the region).
4.	Secondary Effects	Secondary or unintended effects on GHG emissions caused by project activities.	Accounting is required for activity shifting leakage and market leakage if significant.
a.	Project Emissions	Increases in mobile combustion emissions from project activities.	Should be documented and addressed with standardized regional and national methodologies. Look-up tables can be used.
b.	Activity Shifting Leakage	Geographic shifts in harvest or land conversion activities due to project activities	<p>Accounting methodology defined</p> <p>All activity shifting leakage must be appropriately accounted for, i.e., subtracted from the number of emission reduction credits issued</p>
c.	Market Leakage	Market based supply shifts to substitute products that may have negative climate effects.	<p>Accounting methodology defined</p> <p>Market leakage must be accounted for (using look up tables or specific analysis) in cases where timber supply is significantly reduced as a result of the project. In line with the Kyoto Protocol, market impacts outside the country borders do not have to be accounted for.</p>

5.	Measurement	Quantification of GHGs emissions and sequestrations associated with the forest project.	All carbon pools expected to significantly change should be quantified and reported. Requirements for measurements should be updated regularly as science improves.
a.	Standardized Definitions	Set of definitions set up and established by authority as a rule for the measure of quantity, weight, extent, value, or quality and applied consistently across a set of methodologies.	Utilization of clearly identified and, where possible, standard definitions for measurements and equations.
b.	Quantification of Carbon Stocks	Net increases or decreases in forest carbon stocks including above and below-ground biomass, dead wood, litter, soil organic carbon, and harvested wood products.	Initial inventory methodology based on a published methodology agreed upon by local and regional experts. Inventory to continue on a regular basis to determine extent of carbon stock changes. Permanent inventory plots utilized.
c.	Quantification of other GHG emission sources	Certain forest carbon activities (e.g., preparing land for tree planting) may generate emissions not associated with specific carbon pools.	All significant GHG emission sources associated with the project must be accounted for, e.g., emissions from biomass burning during site preparation; emissions from fossil fuel combustion; direct emissions from the use of synthetic fertilizers; and emissions from N-fixing species.
d.	Statistical confidence	An interval estimate of a population parameter used to indicate the reliability of an estimate.	Field measurements and estimates should be required to meet a specified benchmark for accuracy and be reviewed and updated regularly over time. Discounts given to project reductions if statistical confidence levels are below requirements.
6.	Permanence	The removal or storage of carbon in forestry projects must produce long-term climate benefits that are substantially equivalent to direct emissions reductions.	Requirements for ensuring permanence include monitoring and verification, and establishment of buffer or insurance to address the risks of reversal.
a.	Land Tenure	The right to exclusively occupy and use a specified area of land may be limited to certain resources ("resource tenure") such as timber or water. Demonstrating the right to use trees indefinitely is especially important in a carbon project.	Land tenure in project area is defined and legally recognized. Ownership summary included in project documentation and annual reporting. Assurances of forest tenure security include demonstration that people with perpetual legal rights to the trees are the people who will participate in project development and submittal. Consideration included of traditional land tenure systems
b.	Risk of Reversal – fires, pests, changes in management	Future risks of reversing CO2 reductions and project climate benefits from illegal logging, forest fires, disease, pests, agricultural expansion, etc.	Establish an assessment methodology for different kinds of reversals. Assignment of clear obligation for reversals including liabilities and rules for replacement, including utilizing the buffer reserve system.
c.	Buffers	Carbon emission reductions generated by project activities but withheld from the market that represent insurance against reversals.	All projects required to establish buffer pool at first verification of carbon reductions. The size of the buffer pool is based on a standardized project risk evaluation and periodically updated. Buffer pools are used to compensate for any reversals.

7.	Monitoring and Verification	Process of assessing status of project's carbon stocks.	Systematic monitoring plan included in project submittal to ensure project reductions and other project requirements are sustained for duration of project. Verification conducted by trained and approved third-party auditors.
a.	Guidance	Rules and procedural methods which guide how project activities should be verified.	Guidance should establish standards that can be understood and replicated by third party verifiers.
b.	Enforcement	Procedures and mechanisms to ensure that the agreed upon terms and conditions are carried out, and articulates corrective actions or other remedies when project obligations are breached.	Binding contractual relationship with a registry or other governance authority for duration of crediting period. Third-party verification of reported reductions should be completed before reduction tons registered for offset credits. Project documentation should be transparent and available to variety of stakeholders.
8.	Project Co-Benefits	Benefits in addition to long-term climate benefits provided by project activities.	Projects should benefit biodiversity and local forest dependent communities and indigenous people.
a.	Ecosystem Preservation - Native Species/Wildlife Habitat Elements	Project benefits that improve or sustain natural ecosystem processes and enhance biodiversity.	Projects must generate demonstrable net biodiversity benefits.
b.	Forest-Dependent Communities	Project benefits that positively impact lifestyle, levels of economic activity and sources of earned income for residents who rely heavily on forests and other activities linked directly or indirectly to natural resources.	Project information is available, accessible and understandable to local stakeholders. Appropriate involvement of forest-dependent communities in project development and management. Active participation of all stakeholder groups. Evaluate and report on the rights of forest-dependent communities. Must provide clear benefits to local communities, e.g. investment in sustainable livelihoods, benefit sharing mechanisms, employment, etc.
c.	Indigenous Peoples	Project benefits that positively impact culture, lifestyle, levels of economic activity and sources of earned income for people who inhabit a geographic region with which they have the earliest known historical connection.	Project information is transparent and understandable. Appropriate involvement of legitimate indigenous authorities, institutions, and organizations in project development and management. Project documentation includes evaluation on the legal situation of pertinent indigenous territories, lands and resources. Must provide clear benefits to indigenous peoples who may be affected by the project, including investment in sustainable livelihoods, benefit sharing mechanisms, employment, and protections for indigenous cultural traditions (food security, spiritual calendar, etc.) within project area.

APPENDIX 5

Working Group 2 (Accounting Frameworks & Coordination Mechanisms) Scope of Work

I. Introduction & Working Group Members

The Accounting Frameworks & Coordination Mechanisms Working Group is chaired by Jefferson de Castro (Mato Grosso) and assisted by GCF Advisor William Boyd.

The other GCF members of the Working Group are:

- Amazonas;
- California;
- Illinois; and
- Papu

In addition, the Working Group includes the following NGOs:

- Forest Trends;
- Environmental Defense Fund;
- IPAM; and
- IDESAM

The Accounting Frameworks & Coordination Mechanisms Working Group is tasked with assessing and advising the GCF on carbon accounting frameworks and coordination mechanisms for ensuring that REDD project activities are properly accounted for and credited at state/province and/or national levels, coordinated with state/province and national REDD strategies, and consistent with requirements for local participation and benefit-sharing.

II. The Need for Accounting Frameworks & Coordination Mechanisms

As described in more detail in the Joint Action Plan and Appendix 3, in addition to satisfying project-level criteria and standards, REDD activities capable of being recognized in emerging compliance regimes in United States must be properly accounted for and credited in accordance with national and/or sub-national accounting frameworks. This must be done in a manner that is consistent across different jurisdictions and that avoids the problem of double-counting as states and provinces move toward national-level accounting frameworks.

For example, the California ARB Scoping Plan expressly endorses the concept of accepting offsets from “those jurisdictions that demonstrate performance . . . in reducing emissions or enhancing sequestration through eligible forest carbon activities *in accordance with appropriate national or sub-national accounting frameworks*”⁸⁶ (emphasis added).

Likewise, proposed federal legislation in the U.S. (notably H.R. 2454, often referred to as the “Waxman-Markey” climate bill) provides that offsets from subnational REDD activities in Brazil and Indonesia will be awarded based on performance relative to a state/province-level deforestation baseline. The proposed legislation also requires that any state/province-level activities be consistent with existing nationally-appropriate mitigation commitments or actions. And there is strong language in the proposed legislation regarding the rights and interests of and sharing of benefits with local communities and indigenous peoples. In its current form, the proposed legislation also phases out offsets from subnational activities five years after the U.S. compliance system takes effect, at which point only national-level reductions from Brazil or Indonesia would be recognized.

86 California Air Resources Board, *Climate Change Proposed Scoping Plan* (October 2008; approved December 2008), at 38 and 115.

Although the details of these provisions will likely change during the upcoming legislative and regulatory debates, their general elements are likely to survive. Thus, project-level REDD activities that meet appropriate standards and criteria will also have to be embedded within appropriate national and sub-national accounting frameworks. Likewise, coordinating mechanisms will need to be developed that can ensure consistency across jurisdictions and between state/province and national levels as well as provide sufficient confidence that carbon revenues will benefit local communities.

The Working Group tasks below are designed to help the GCF states and provinces meet these requirements.

III. Tasks

A. Accounting Frameworks & Capabilities

1. Assess Forest Carbon Inventory and Monitoring Capabilities

- Assess the current capability of the GCF states and provinces to use remote sensing technologies combined with “ground truthing” (consistent with the existing IPCC Good Practice Guidance for Land Use Land Use Change and Forestry) to provide information about and monitor changes in forest carbon stocks.
- Identify and work with technical experts to develop a transparent and user-friendly platform to map changes in forest carbon stocks over time in a manner that allows for rigorous carbon accounting.
- Determine the actions and resources needed to develop state- and province-level forest carbon maps that can be used as a basis for monitoring performance going forward and that are compatible with similar state /province and/or national mapping efforts.

2. Assess and Develop Recommendations re Baselines and Reference Scenarios

- Examine existing approaches to establishing baselines and reference scenarios in light of the requirements of emerging compliance regimes in the U.S.
- Develop recommendations for developing a set of baseline methodologies for the GCF states and provinces that are flexible enough to capture the different circumstances prevailing in different jurisdictions while also meeting the needs of the compliance regimes.

3. Forest Carbon Registries

- Assess and compile relevant lessons from existing carbon registry practices.
- Develop a prototype or model forest carbon registry that could be used in the different MOU states/provinces for all project-level activities (either at the state/province level or at the regional and national levels).
- Determine how to facilitate the development of public forest carbon registries in the MOU states/provinces.

4. Verification and Enforceability

- Assess practices for verifying REDD activities in Brazil and Indonesia in the context of reductions accounted for at sub-national and/or national levels, including the possibilities of combining third-party certification and verification of project-level activities with sub-national-level performance indicators.
- Assess mechanisms for ensuring the enforceability of international offset credits, such as the possibility of using liability rules, insurance instruments, buffers, and/or credit reserves as tools for dealing with the question of enforceability of offsets across jurisdictions.

B. Coordinating Mechanisms

1. REDD Planning

- Using existing approaches, develop a menu of best practices for REDD planning that can be used by the MOU states and provinces and that is consistent with larger national-level REDD planning efforts.
- Assess regional institutions and programs as possible models for multi-state cooperation on REDD planning.

2. Carbon Revenue Tracking and Distribution

- Explore and present possible models and institutions to ensure the equitable, transparent, and accountable mechanisms for tracking and distributing REDD offset revenues within and between relevant jurisdictions and to relevant actors on the ground (see, e.g. *infra* at section V. Model Framework for REDD Coordination).

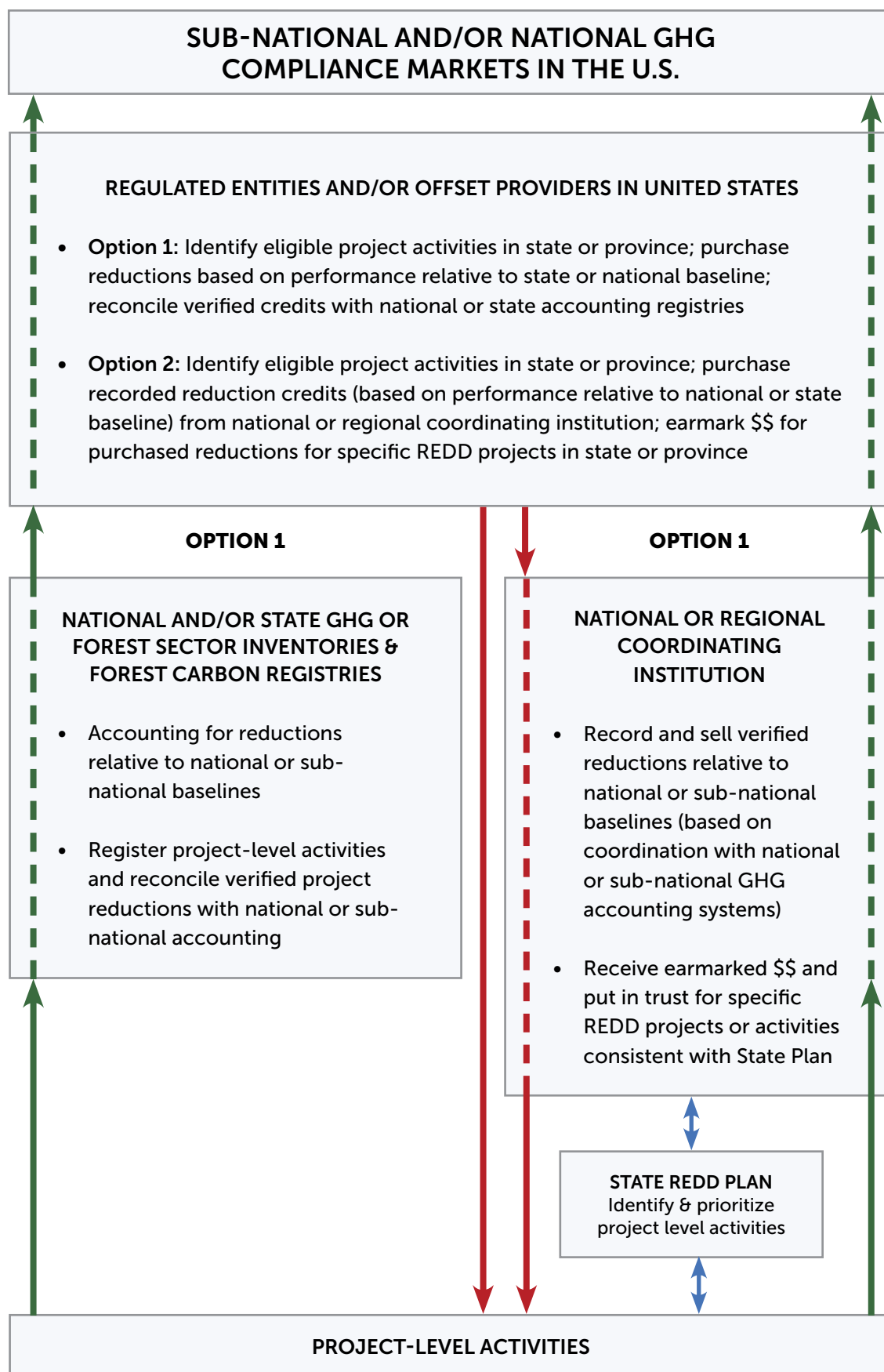
3. Local Participation and Benefit-Sharing Frameworks

- Review current activities that ensure local participation and benefit-sharing and distill the key lessons and best practices from them.
- Develop model framework(s) for community involvement and benefit-sharing in REDD activities.

IV. Timeline

(in development)

V. Example of Framework for REDD Coordination (see below; others in development)



APPENDIX 6

Working Group 3 (Needs Assessment) Scope of Work

The following is a proposed draft template to be used for REDD project proponents to complete as best they can. The suggested template is supposed to be revised and agreed upon between the GCF Task Force prior to sending it out to the proponents in Indonesia and Brazil to fill it out.

The Needs Assessment Working Group will collect data on the current state of REDD affairs in both Brazil and Indonesia, analyze the constraints to fully developing REDD activities in each of the respective countries, and, finally, identify actions to address these constraints based on each REDD initiative in each province / state.

The intention of the Working Group 3 is a 2 phases approach. The first phase will take place before the September meeting in California and it is orientated to assess the current status carried out by each state or province to develop a REDD project.

The second phase will take place after the September meeting when it is expected to have the definitions for principles and criteria made by Working Group 1 and definitions for accountability and governance mechanisms made by Working Group 2. In the second phase, necessities to increase states' and provinces' capacities to reach the standards proposed by the first Working Groups will be identified and processes to overcome will be planned by GCF Task Force.

Elements for the development of a REDD project

The assessment proposed is based on elements required for the development of a REDD project grouped in 3 components as described below:

COMPONENTS / ELEMENTS OF REDD PROJECT	DESCRIPTION OF THE ELEMENT
COMPONENT 1 : ENVIRONMENTAL SERVICE	
1. Deforestation dynamics monitoring	Characterization of deforestation dynamics, monitoring methodologies used and accuracy
2. Forest degradation dynamics monitoring	Characterization of degradation dynamics, monitoring methodologies used and accuracy
3. Forest Carbon Stocks quantification	Carbon stocks in forests (aerial, litter, soil)
4. Baseline and emissions reduction targets definition	Baseline references, CO2 Reduction Goals, Estimated CO2 savings per period and per year
COMPONENT 2 : IMPLEMENTATION MECHANISMS FOR REDD	
1. Structural policies in place for reduction of deforestation and valuing of Forest assets	List and characterization of policies that enable deforestation reduction and promote the value of forests
2. Territorial approach for REDD	Approaches to implement REDD in the whole territory or project base and Description of the areas
3. Payments for environmental services mechanisms	Description of the PES mechanisms currently in place or planned
4. Institutional framework and arrangement to bear REDD program and Government's capacity to implement REDD	Existing and to be created organizations and instances related to the governance of REDD program; Knowledge and human capital within state or province to implement REDD
5. Relationship with National Government	Role of and relationship with the Central Government policies on deforestation reduction and National Carbon Accounting System
6. Validation and Certification protocols for REDD	Protocols being used to validate and certify REDD programs
COMPONENT 3 : REDD FINANCING	
1. Current strategies to finance REDDiness	Costs and financing sources to elaborate a REDD program
2. Strategies to finance REDD	Description of strategies designed and in place to finance REDD costs

The following information is being requested from each REDD project proponent (please be as descriptive as possible). The information required here is referred to each element for a REDD project (a brief description of the element is given in the table above) and is based on state-of-art of the element in REDD project in the state or province. If necessities for each element are already identified it would be interesting to describe them in the document as it will subsidize the second phase.

Characterization of the REDD Project

- A. **State / Province Name:**
- B. **Project Name / Brief Description:**
Project start date; physical, legal, and biological attributes; short description of historical context; current land use; presence/absence of forest dependent communities and indigenous populations
- C. **Project Proponents / Partners:**

Component 1 : Environmental Service

1. **Deforestation dynamics knowledge and monitoring**
1.1 State-of-the-art
2. **Forest degradation dynamics knowledge and monitoring**
2.1 State-of-the-art
3. **Forest Carbon Stocks quantification**
3.1 State-of-the-art
4. **Baseline and emissions reduction targets definition**
4.1 State-of-the-art

Component 2 : Implementation mechanisms for REDD

1. **Structural policies in place for reduction of deforestation and valuing of Forest assets**
1.1 State-of-the-art
2. **Territorial approach for REDD**
2.1 State-of-the-art
3. **Payments for environmental services mechanisms**
3.1 State-of-the-art
4. **Institutional framework and arrangement to bear REDD program and Capacity to implement REDD**
4.1 State-of-the-art
5. **Role of and relationship with the Central Government policies on deforestation reduction and National Carbon Accounting System**
5.1 State-of-the-art
6. **Validation and Certification protocols for REDD**
6.1 State-of-the-art

Component 3 : REDD Financing

1. **Current strategies to finance REDDiness**
1.1 State-of-the-art
2. **Strategies to finance REDD**
2.1 State-of-the-art

APPENDIX 7: Timeline for 2009-2010 Activities

GCF Meetings

GCF Deliverables

California Global Warming Solutions Act (AB 32) Deadlines⁸⁷

DATE	DESCRIPTION	LOCATION	ATTENDEES/RESPONSIBLE PARTIES
2009			
Feb/March 2009	Select Protocol Consultants and Workshop Coordinators	n/r	<ul style="list-style-type: none"> • GCF Advisor • Project Leader
Feb/March 2009	Fact-finding Trips	Brazil, D.C., California	<ul style="list-style-type: none"> • CA delegation & core group of advisors • Project Leader • GCF Advisor • Protocol Consultant
April –June 2009	Draft Joint Action Plan for steps to implement MOUs	n/r	<ul style="list-style-type: none"> • GCF • GCF Advisor
June 18-19, 2009	GCF Meeting 1 to review Draft Joint Action Plan, MOU implementation efforts	Belem, Brazil	<ul style="list-style-type: none"> • GCF • GCF Advisor • Project Leader • Protocol Consultant • GCF Advisory Council • Core GCF reps and observers
June/July 2009	Final Joint Action Plan with input from GCF Meeting and Advisory Council	n/r	<ul style="list-style-type: none"> • GCF • GCF Advisor • Protocol Consultant
July 28, 2009	California Air Resources Board workshop on international forest offsets.	Sacramento, CA	<ul style="list-style-type: none"> • GCF participants who wish to attend
August 15, 2009	Draft GCF Protocol Assessment Report	n/r	<ul style="list-style-type: none"> • Protocol Consultant
August 30, 2009	Draft GCF Progress Report and interim Working Group and Task Force Reports	n/r	<ul style="list-style-type: none"> • GCF • GCF Advisor • GCF Advisory Council
End September-October 1, 2009	GCF Meeting 2 to discuss Protocol Assessment Report, interim Working Group and Task Force Reports, and GCF Progress Report Governors' Climate Summit	Los Angeles area, California	<ul style="list-style-type: none"> • GCF • GCF Advisor • Project Leader • Protocol Consultant • Workshop Coordinator • GCF Advisory Council • Core GCF reps and observers
November 2009	Final Protocol Assessment Report with input with input from GCF Meeting 2 and GCF Advisory Council	n/a	<ul style="list-style-type: none"> • Protocol Consultant
November 2009	Final GCF Progress Report for 2009 Activities	n/a	<ul style="list-style-type: none"> • GCF • GCF Advisor
December 1, 2009	Media materials produced for Copenhagen		<ul style="list-style-type: none"> • TBD
December 15, 2009	GCF Meeting/Presentation at COP-15	Denmark, Copenhagen	<ul style="list-style-type: none"> • GCF Governors • GCF • GCF Advisor • Project Leader • GCF Advisory Council if possible

⁸⁷ <http://www.climatechange.ca.gov/ab32/index.html>.

Timeline for 2009-2010 Activities *(continued)*

DATE	DESCRIPTION	LOCATION	ATTENDEES/RESPONSIBLE PARTIES
2010 and beyond			
2010	California Air Resources Board (ARB) conducts series of rulemakings, after workshops and public hearings, to adopt GHG regulations including rules governing market mechanisms		
June 2010	GCF Meeting 1	TBD	TBD
September 2010	GCF Meeting 2	TBD	TBD
January 1, 2011	ARB completes major rulemakings for reducing GHGs including market mechanisms. ARB may revise the rules and adopt new ones after 1/1/2011 in furtherance of the 2020 cap		
January 1, 2012	GHG rules and market mechanisms adopted by ARB take effect and are legally enforceable		

